

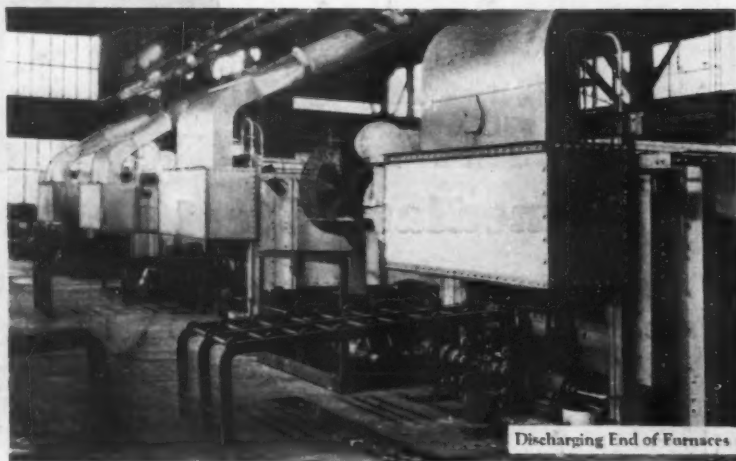
# THE IRON AGE

SEP 26 1930

*Seventy-fifth Year*

SEPTEMBER 25, 1930

## *Continuous* **PACK-HEATING- PAIR-HEATING- AND NORMALIZING FURNACES "RADIANT GAP TYPE"**



Discharging End of Furnaces

*A*utomatic Tinning Equipment, including  
Pool & Davis Feeders.  
Wet Tin Plate Cleaning Units.  
Automatic Doublers.  
Automatic Cold Roll Piling Machines.  
Cold Roll Packers.  
Method and Process for Treating Tin  
Plate.  
(All the above licensed under patents and patents pending)  
McKay Roller Leveling Equipment.  
Sheet Scrubbing Machines.  
Sheet Oiling Machines.

LICENSED UNDER PATENTS  
AND PATENTS PENDING

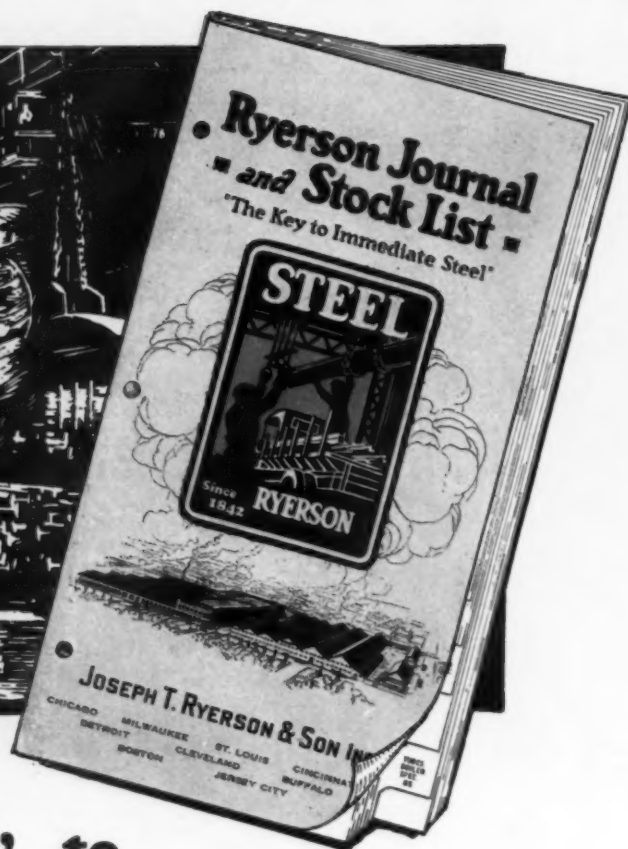
Mulholland Oscillating Type Polishing  
Machines for Chrome Nickel Sheets

**THE WEAN ENGINEERING COMPANY, INC.**  
**WARREN, OHIO**

Flinn & Drefflein Co.

Associated Companies

The McKay Machine Co.



## The Ryerson Journal and Stock List—"Key" to Immediate Steel

With this book on your desk, you have the key to more than 10,000 steel products—more than 175,000 tons of steel. You can draw on these stocks almost as quickly as you can requisition your own storeroom. Shipment is immediate.

Use the Ryerson Journal and

Stock List as your inventory record. Then you will have no capital tied up—no carrying charges—and all the steel you can use, just when you need it.

If you do not have the current copy, write us; it will be mailed at once.

*Here is a partial list of the many items in stock for immediate shipment:*

Bars	Refined Iron	Boiler Tubes and	Alloy Steel
Structurals	Turned, Ground and	Fittings	Tool Steel
Rails	Polished Shafting	Welding Rod	Concrete Reinforcing
Plates	Screw Stock	Forging Bars	Firmtread Plates
Sheets, Blk. & Galv.	Strip Steel	Babbitt Metal	Small Tools
Sheets, Full Finished	Rivets and Bolts	Allegheny Metal	Machinery, etc.

### JOSEPH T. RYERSON & SON, INC.

Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston,  
Philadelphia, Jersey City

Representation in: Minneapolis, Tulsa, Rockford, Kansas City, Houston, Dallas, Newark,  
New York, Denver, Los Angeles, San Francisco

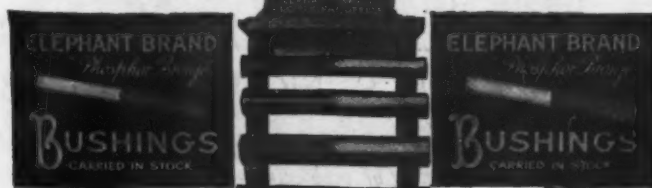
# RYERSON

## STEEL - SERVICE



# ELEPHANT BRAND "Phosphor Bronze"

REG. U.S. PAT. OFF.



## Quality is the Best Assurance of Satisfaction

Outside Diameter		BUSHINGS																		SIZES	
		Cast in the Rough 12" long. Carried in Stock																			
		SIZE OF CORES								SIZE OF CORES											
		1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"		
1"	1 1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"		
1 1/4"	1 1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	1 1/4"		
1 1/2"	1 3/4"	1"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	1 1/2"	1 3/4"		
1 3/4"	2"	1 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	1 3/4"	2"	2 1/4"		
2"	2 1/4"	1 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	2"	2 1/4"	2 1/4"	2 3/4"		
2 1/4"	2 1/2"	1 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	2 1/4"	2 3/4"	2 3/4"	3"	3 1/4"		
2 1/2"	2 3/4"	2"	2 1/4"	2 1/2"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	2 3/4"	3"	3 1/4"	3"	3 1/4"	3 1/2"		
2 3/4"	3"	2 1/4"	2 3/4"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	3"	3 1/4"	3 1/2"	3 3/4"	3 1/2"	3 3/4"	4"		
3"	3 1/4"	2 3/4"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	4"	4 1/4"		
3 1/4"	3 1/2"	3"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	3 3/4"	4"	4 1/4"	1/2"	3/4"	4 1/4"	1/2"	3/4"	4 1/4"	4 1/2"		
3 1/2"	3 3/4"	3 1/4"	3 1/2"	3 3/4"	4"	4 1/4"	1/2"	3/4"	4 1/4"	1/2"	3/4"	4 1/4"	1/2"	3/4"	4 1/2"	1/2"	3/4"	4 1/2"	4 3/4"		
3 3/4"	4"	3 3/4"	4"	4 1/4"	1/2"	3/4"	4 1/4"	1/2"	3/4"	4 1/2"	1/2"	3/4"	4 1/2"	1/2"	3/4"	4 3/4"	1/2"	3/4"	5"		
4"	4 1/4"	4"	4 1/4"	4 1/2"	1/2"	3/4"	4 1/2"	1/2"	3/4"	5"	1/2"	3/4"	5"	1/2"	3/4"	5 1/4"	1/2"	3/4"	5 1/2"		
4 1/4"	4 1/2"	4 1/4"	4 1/2"	4 3/4"	1/2"	3/4"	4 3/4"	1/2"	3/4"	5 1/4"	1/2"	3/4"	5 1/4"	1/2"	3/4"	5 1/2"	1/2"	3/4"	5 3/4"		
4 1/2"	4 3/4"	4 1/2"	4 3/4"	5"	1/2"	3/4"	5"	1/2"	3/4"	5 3/4"	1/2"	3/4"	5 3/4"	1/2"	3/4"	5 3/4"	1/2"	3/4"	6"		
4 3/4"	5"	4 3/4"	5"	5 1/4"	1/2"	3/4"	5 1/4"	1/2"	3/4"	5 1/2"	1/2"	3/4"	5 1/2"	1/2"	3/4"	5 1/2"	1/2"	3/4"	5 3/4"		
5"	5 1/4"	5"	5 1/4"	5 1/2"	1/2"	3/4"	5 1/2"	1/2"	3/4"	5 3/4"	1/2"	3/4"	5 3/4"	1/2"	3/4"	5 3/4"	1/2"	3/4"	6 1/4"		
5 1/4"	5 1/2"	5 1/4"	5 1/2"	5 3/4"	1/2"	3/4"	5 3/4"	1/2"	3/4"	6"	1/2"	3/4"	6"	1/2"	3/4"	6 1/4"	1/2"	3/4"	6 1/2"		
5 1/2"	5 3/4"	5 1/2"	5 3/4"	6"	1/2"	3/4"	6"	1/2"	3/4"	6 1/4"	1/2"	3/4"	6 1/4"	1/2"	3/4"	6 1/2"	1/2"	3/4"	6 3/4"		
5 3/4"	6"	5 3/4"	6"	6 1/4"	1/2"	3/4"	6 1/4"	1/2"	3/4"	6 1/2"	1/2"	3/4"	6 1/2"	1/2"	3/4"	6 1/2"	1/2"	3/4"	6 3/4"		
6"	6 1/4"	6"	6 1/4"	6 1/2"	1/2"	3/4"	6 1/2"	1/2"	3/4"	6 3/4"	1/2"	3/4"	6 3/4"	1/2"	3/4"	6 3/4"	1/2"	3/4"	7"		
6 1/4"	6 1/2"	6 1/4"	6 1/2"	6 3/4"	1/2"	3/4"	6 3/4"	1/2"	3/4"	7"	1/2"	3/4"	7"	1/2"	3/4"	7 1/4"	1/2"	3/4"	7 1/2"		
6 1/2"	6 3/4"	6 1/2"	6 3/4"	7"	1/2"	3/4"	7"	1/2"	3/4"	7 1/4"	1/2"	3/4"	7 1/4"	1/2"	3/4"	7 1/2"	1/2"	3/4"	7 3/4"		
6 3/4"	7"	6 3/4"	7"	7 1/4"	1/2"	3/4"	7 1/4"	1/2"	3/4"	7 1/2"	1/2"	3/4"	7 1/2"	1/2"	3/4"	7 1/2"	1/2"	3/4"	7 3/4"		
7"	7 1/4"	7"	7 1/4"	7 1/2"	1/2"	3/4"	7 1/2"	1/2"	3/4"	7 3/4"	1/2"	3/4"	7 3/4"	1/2"	3/4"	7 3/4"	1/2"	3/4"	8"		
7 1/4"	7 1/2"	7 1/4"	7 1/2"	7 3/4"	1/2"	3/4"	7 3/4"	1/2"	3/4"	8"	1/2"	3/4"	8"	1/2"	3/4"	8 1/4"	1/2"	3/4"	8 1/2"		
7 1/2"	7 3/4"	7 1/2"	7 3/4"	8"	1/2"	3/4"	8"	1/2"	3/4"	8 1/4"	1/2"	3/4"	8 1/4"	1/2"	3/4"	8 1/2"	1/2"	3/4"	8 3/4"		
7 3/4"	8"	7 3/4"	8"	8 1/4"	1/2"	3/4"	8 1/4"	1/2"	3/4"	8 1/2"	1/2"	3/4"	8 1/2"	1/2"	3/4"	8 1/2"	1/2"	3/4"	8 3/4"		
8"	8 1/4"	8"	8 1/4"	8 1/2"	1/2"	3/4"	8 1/2"	1/2"	3/4"	8 3/4"	1/2"	3/4"	8 3/4"	1/2"	3/4"	8 3/4"	1/2"	3/4"	9"		
8 1/4"	8 1/2"	8 1/4"	8 1/2"	8 3/4"	1/2"	3/4"	8 3/4"	1/2"	3/4"	9"	1/2"	3/4"	9"	1/2"	3/4"	9 1/4"	1/2"	3/4"	9 1/2"		
8 1/2"	8 3/4"	8 1/2"	8 3/4"	9"	1/2"	3/4"	9"	1/2"	3/4"	9 1/4"	1/2"	3/4"	9 1/4"	1/2"	3/4"	9 1/2"	1/2"	3/4"	9 3/4"		
8 3/4"	9"	8 3/4"	9"	9 1/4"	1/2"	3/4"	9 1/4"	1/2"	3/4"	9 1/2"	1/2"	3/4"	9 1/2"	1/2"	3/4"	9 1/2"	1/2"	3/4"	9 3/4"		
9"	9 1/4"	9"	9 1/4"	9 1/2"	1/2"	3/4"	9 1/2"	1/2"	3/4"	9 3/4"	1/2"	3/4"	9 3/4"	1/2"	3/4"	9 3/4"	1/2"	3/4"	10"		
9 1/4"	9 1/2"	9 1/4"	9 1/2"	9 3/4"	1/2"	3/4"	9 3/4"	1/2"	3/4"	10"	1/2"	3/4"	10"	1/2"	3/4"	10 1/4"	1/2"	3/4"	10 1/2"		
9 1/2"	9 3/4"	9 1/2"	9 3/4"	10"	1/2"	3/4"	10"	1/2"	3/4"	10 1/4"	1/2"	3/4"	10 1/4"	1/2"	3/4"	10 1/2"	1/2"	3/4"	10 3/4"		
9 3/4"	10"	9 3/4"	10"	10 1/4"	1/2"	3/4"	10 1/4"	1/2"	3/4"	10 1/2"	1/2"	3/4"	10 1/2"	1/2"	3/4"	10 1/2"	1/2"	3/4"	10 3/4"		
10"	10 1/4"	10"	10 1/4"	10 1/2"	1/2"	3/4"	10 1/2"	1/2"	3/4"	10 3/4"	1/2"	3/4"	10 3/4"	1/2"	3/4"	10 3/4"	1/2"	3/4"	11"		
10 1/4"	10 1/2"	10 1/4"	10 1/2"	10 3/4"	1/2"	3/4"	10 3/4"	1/2"	3/4"	11"	1/2"	3/4"	11"	1/2"	3/4"	11 1/4"	1/2"	3/4"	11 1/2"		
10 1/2"	10 3/4"	10 1/2"	10 3/4"	11"	1/2"	3/4"	11"	1/2"	3/4"	11 1/4"	1/2"	3/4"	11 1/4"	1/2"	3/4"	11 1/2"	1/2"	3/4"	11 3/4"		
10 3/4"	11"	10 3/4"	11"	11 1/4"	1/2"	3/4"	11 1/4"	1/2"	3/4"	11 1/2"	1/2"	3/4"	11 1/2"	1/2"	3/4"	11 1/2"	1/2"	3/4"	11 3/4"		
11"	11 1/4"	11"	11 1/4"	11 1/2"	1/2"	3/4"	11 1/2"	1/2"	3/4"	11 3/4"	1/2"	3/4"	11 3/4"	1/2"	3/4"	11 3/4"	1/2"	3/4"	12"		
11 1/4"	11 1/2"	11 1/4"	11 1/2"	11 3/4"	1/2"	3/4"	11 3/4"	1/2"	3/4"	12"	1/2"	3/4"	12"	1/2"	3/4"	12 1/4"	1/2"	3/4"	12 1/2"		
11 1/2"	11 3/4"	11 1/2"	11 3/4"	12"	1/2"	3/4"	12"	1/2"	3/4"	12 1/4"	1/2"	3/4"	12 1/4"	1/2"	3/4"	12 1/2"	1/2"	3/4"	12 3/4"		
11 3/4"	12"	11 3/4"	12"	12 1/4"	1/2"	3/4"	12 1/4"	1/2"	3/4"	12 1/2"	1/2"	3/4"	12 1/2"	1/2"	3/4"	12 1/2"	1/2"	3/4"	12 3/4"		
12"	12 1/4"	12"	12 1/4"	12 1/2"	1/2"	3/4"	12 1/2"	1/2"	3/4"	12 3/4"	1/2"	3/4"	12 3/4"	1/2"	3/4"	12 3/4"	1/2"	3/4"	13"		
12 1/4"	12 1/2"	12 1/4"	12 1/2"	12 3/4"	1/2"	3/4"	12 3/4"	1/2"	3/4"	13"	1/2"	3/4"	13"	1/2"	3/4"	13 1/4"	1/2"	3/4"	13 1/2"		
12 1/2"	12 3/4"	12 1/2"	12 3/4"	13"	1/2"	3/4"	13"	1/2"	3/4"	13 1/4"	1/2"	3/4"	13 1/4"	1/2"	3/4"	13 1/2"	1/2"	3/4"	13 3/4"		
12 3/4"	13"	12 3/4"	13"	13 1/4"	1/2"	3/4"	13 1/4"	1/2"	3/4"	13 1/2"	1/2"	3/4"	13 1/2"	1/2"	3/4"	13 1/2"	1/2"	3/4"	13 3/4"		
13"	13 1/4"	13"	13 1/4"	13 1/2"	1/2"	3/4"	13 1/2"	1/2"	3/4"	13 3/4"	1/2"	3/4"	13 3/4"	1/2"	3/4"	13 3/4"	1/2"	3/4"	14"		
13 1/4"	13 1/2"	13 1/4"	13 1/2"	13 3/4"	1/2"	3/4"	13 3/4"	1/2"	3/4"	14"	1/2"	3/4"	14"	1/2"	3/4"	14 1/4"	1/2"	3/4"	14 1/2"		
13 1/2"	13 3/4"	13 1/2"	13 3/4"	14"	1/2"	3/4"	14"	1/2"	3/4"	14 1/4"	1/2"	3/4"	14 1/4"	1/2"	3/4"	14 1/2"	1/2"	3/4"	14 3/4"		
13 3/4"	14"	13 3/4"	14"	14 1/4"	1/2"	3/4"	14 1/4"	1/2"	3/4"	14 1/2"	1/2"	3/4"	14 1/2"	1/2"	3/4"	14 1/2"	1/2"	3/4"	14 3/4"		
14"	14 1/4"	14"	14 1/4"	14 1/2"	1/2"	3/4"	14 1/2"	1/2"	3/4"	14 3/4"	1/2"	3/4"	14 3/4"	1/2"	3/4"	14 3/4"	1/2"	3/4"	15"		
14 1/4"	14 1/2"	14 1/4"	14 1/2"	14 3/4"	1/2"	3/4"	14 3/4"	1/2"	3/4"	15"	1/2"	3/4"	15"	1/2"	3/4"	15 1/4"	1/2"	3/4"	15 1/2"		
14 1/2"	14 3/4"	14 1/2"	14 3/4"	15"	1/2"	3/4"	15"	1/2"	3/4"	15 1/4"	1/2"	3/4"	15 1/4"	1/2"	3/4"	15 1/2"	1/2"	3/4"	15 3/4"		
14 3/4"	15"	14 3/4"	15"	15 1/4"	1/2"	3/4"	15 1/4"	1/2"	3/4"	15 1/2"	1/2"	3/4"	15 1/2"	1/2"	3/4"	15 1/2"	1/2"	3/4"	15 3/4"		
15"	15 1/4"	15"	15 1/4"	15 1/2"	1/2"	3/4"	15 1/2"	1/2"	3/4"	15 3/4"	1/2"	3/4"	15 3/4"	1/2"	3/4"	15 3/4"	1/2"	3/4"	16"		
15 1/4"	15 1/2"	15 1/4"	15 1/2"	15 3/4"	1/2"	3/4"	15 3/4"	1/2"	3/4"	16"	1/2"	3/4"	16"	1/2"	3/4"	16 1/4"	1/2"	3/4"	16 1/2"		
15 1/2"	15 3/4"	15 1/2"	15 3/4"	16"	1/2"	3/4"	16"	1/2"	3/4"	16 1/4"	1/2"	3/4"	16 1/4"	1/2"	3/4"	16 1/2"	1/2"	3/4"	16 3/4"		
15 3/4"	16"	15 3/4"	16"	16 1/4"	1/2"	3/4"	16 1/4"	1/2"	3/4"	16 1/2"	1/2"	3/4"	16 1/2"	1/2"	3/4"	16 1/2"	1/2"	3/4"	16 3/4"		
16"	16 1/4"	16"	16 1/4"	16 1/2"	1/2"	3/4"	16 1/2"	1/2"	3/4"	16 3/4"	1/2"	3/4"	16 3/4"	1/2"	3/4"	16 3/4"	1/2"	3/4"	17"		
16 1/4"	16 1/2"	16 1/4"	16 1/2"	16 3/4"	1/2"	3/4"	16 3/4"	1/2"	3/4"	17"	1/2"	3/4"	17"	1/2"	3/4"	17 1/4"	1/2"	3/4"	17 1/2"		
16 1/2"	16 3/4"	16 1/2"	16 3/4"	17"	1/2"	3/4"	17"	1/2"	3/4"	17 1/4"	1/2"	3/4"	17 1/4"	1/2"	3/4"	17 1/2"	1/2"	3/4"	17 3/4"		
16 3/4"	17"	16 3/4"	17"	17 1/4"	1/2"	3/4"	17 1/4"	1/2"	3/4"	17 1/2"	1/2"	3/4"	17 1/2"	1/2"	3/4"	17 1/2"	1/2"	3/4"	17 3/4"		

## AN EXCLUSIVE SALES ENGINEERING SERVICE IN ALLOY STEELS NOW AVAILABLE

*Backed by a staff of well known metallurgists, this organization is devoted exclusively to the handling of problems in corrosion, heat and wear resistant alloys in all forms.*

# NIROSTA, NITRALLOY and STAINLESS STEELS

*The following standard grades are offered:*

NITRALLOY (Wear resistant)	lery steel for Hardness, wear and corrosion resistance)
DELHI EZ (Easy machining, wear and corrosion resistant)	NEVASTAIN B (17% Chromium cutlery steel for Hardness, wear and corrosion resistance)
DELHI S (12% Chromium, wear and corrosion resistant)	18-8 NIROSTA KA2 (for maximum corrosion resistance)
DELHI A (18% Chromium, corrosion resistant)	18-8 NIROSTA KA2S (for maximum corrosion resistance under severe service especially high temperature and pressure)
DELHI SPECIAL (18% Chromium, high Silicon, Heat resistant)	NCT3 (High-Nickel-Chrome, Silicon, for Heat and corrosion resistance)
DELHI HARD (18% Chromium, high carbon, for Hardness, wear and corrosion resistance)	
NEVASTAIN A (13% Chromium cut-	

### PRODUCTS:

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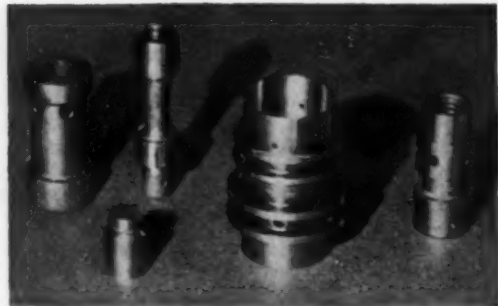
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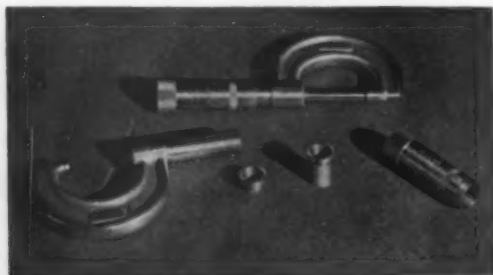
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Perhaps the use of BETHALON would increase the economy or serviceability of your product. Bethlehem metallurgists will gladly give you complete information.



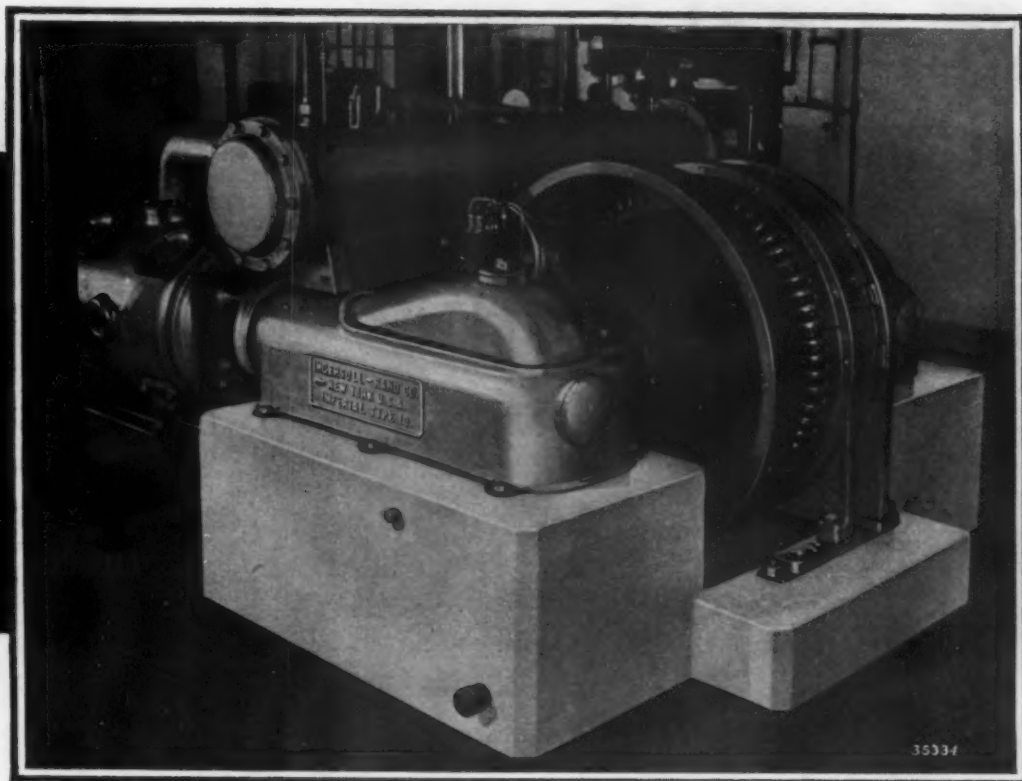
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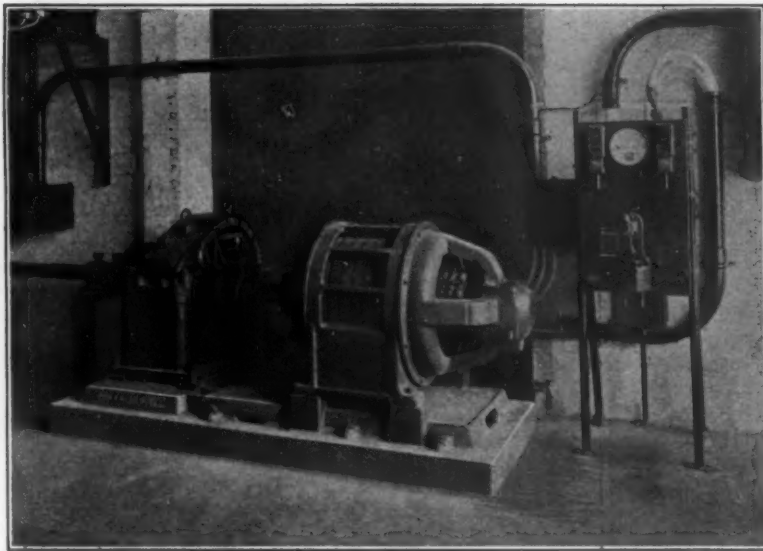
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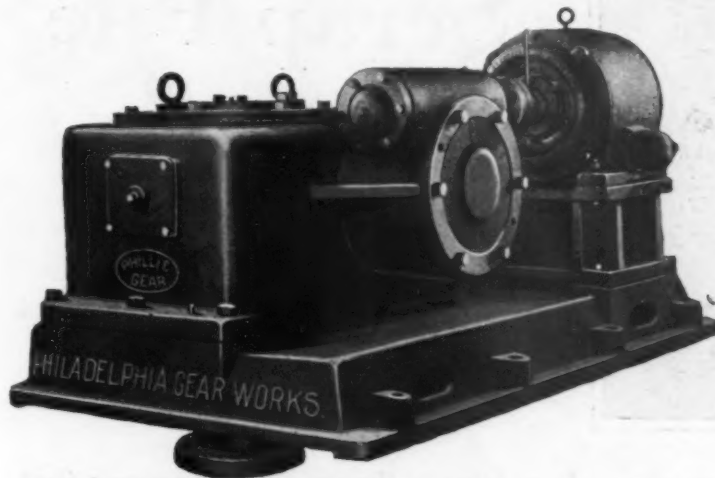
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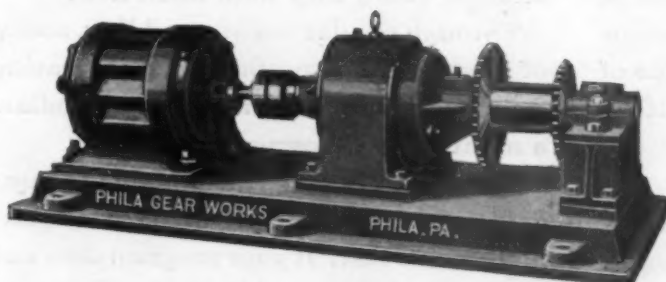
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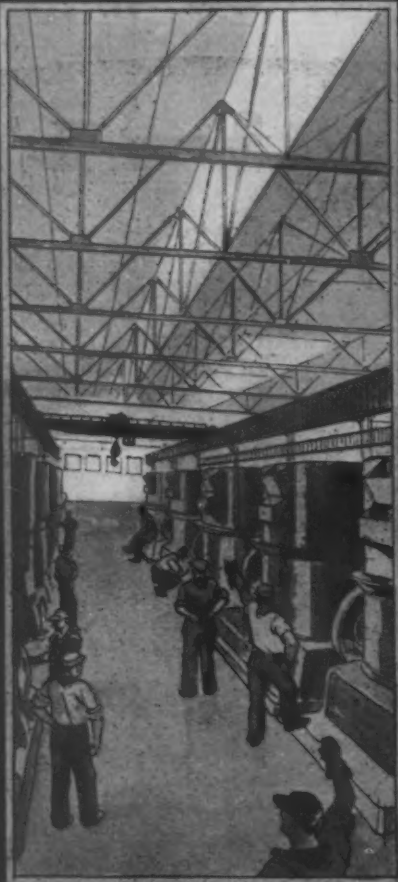
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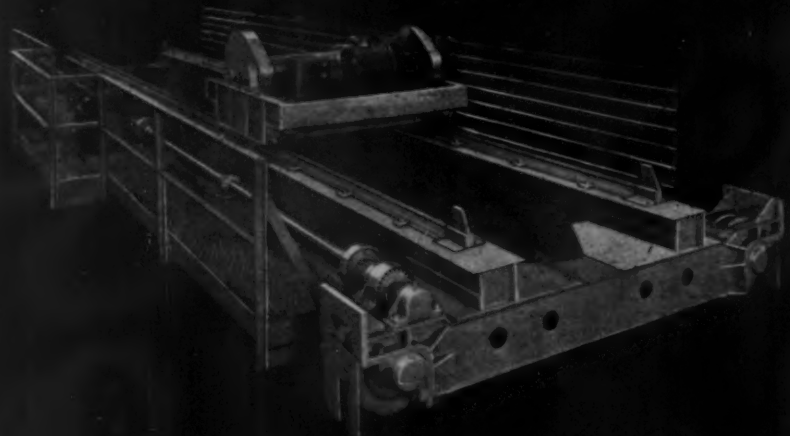
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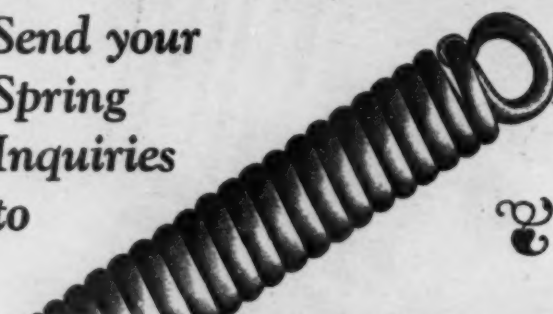
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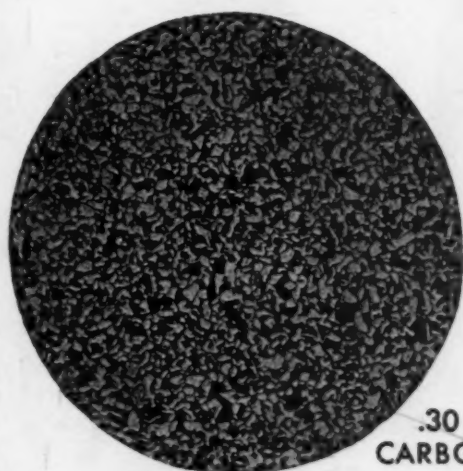


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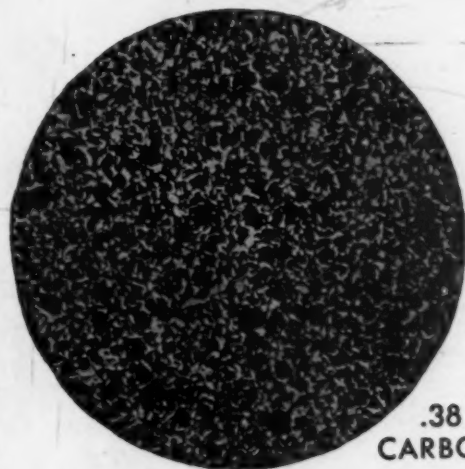


# Densite



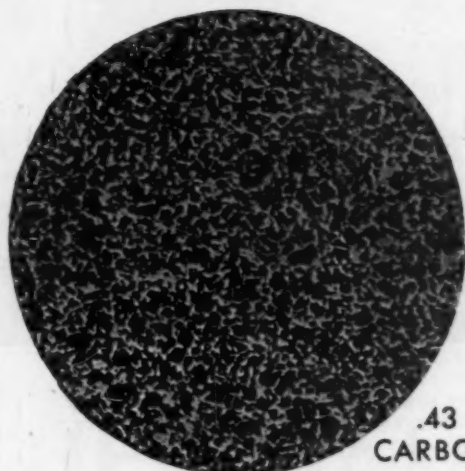
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withstand drastic quenching. They are obtainable from your REGULAR source of supply.

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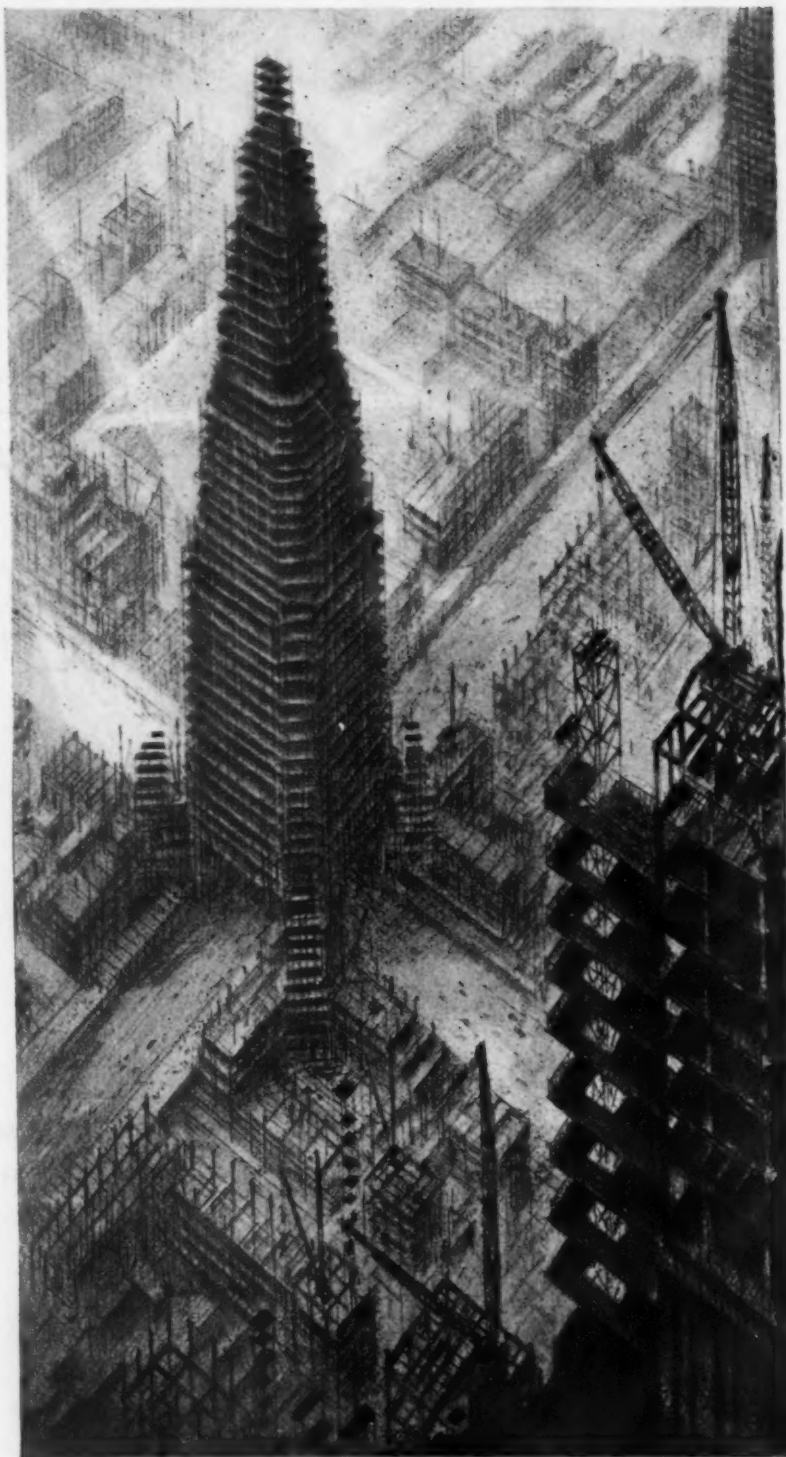
Eventually, cities will be all steel. Not only the skyscrapers and great bridges, but the homes, schools, small apartment and mercantile houses, small factories and small bridges as well. For steel is the strongest, most versatile and fastest building material. Fabricated in mills, weather cannot delay its production—and rain, intense heat, or freezing does not impair its strength. It can be erected anywhere, at any time, as long as men can work—thus earlier returns on invested capital are insured, interest charges are saved.

In cities, too, there is constant change, growth. Small structures give way to larger ones—must be altered, added to or replaced. Steel facilitates alteration and addition—and no other building material has such high salvage value, is so economically recovered, or is so readily marketed afterward.

Before building anything find out what steel can do for you. The Institute serves as a clearing house for technical and economic information on structural steel, and offers full and free co-operation in the use of such data to architects, engineers and all others interested.



The co-operative non-profit service organization of the structural steel industry of North America. Through its extensive test and research program, the Institute aims to establish the full facts regarding steel in relation to every type of construction. The Institute's many publications, covering every phase of steel construction, are available on request. Please address all inquiries to 200 Madison Avenue, New York City. Canadian address: 710 Bank of Hamilton Bldg., Toronto, Ontario. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas, San Francisco and Toronto.

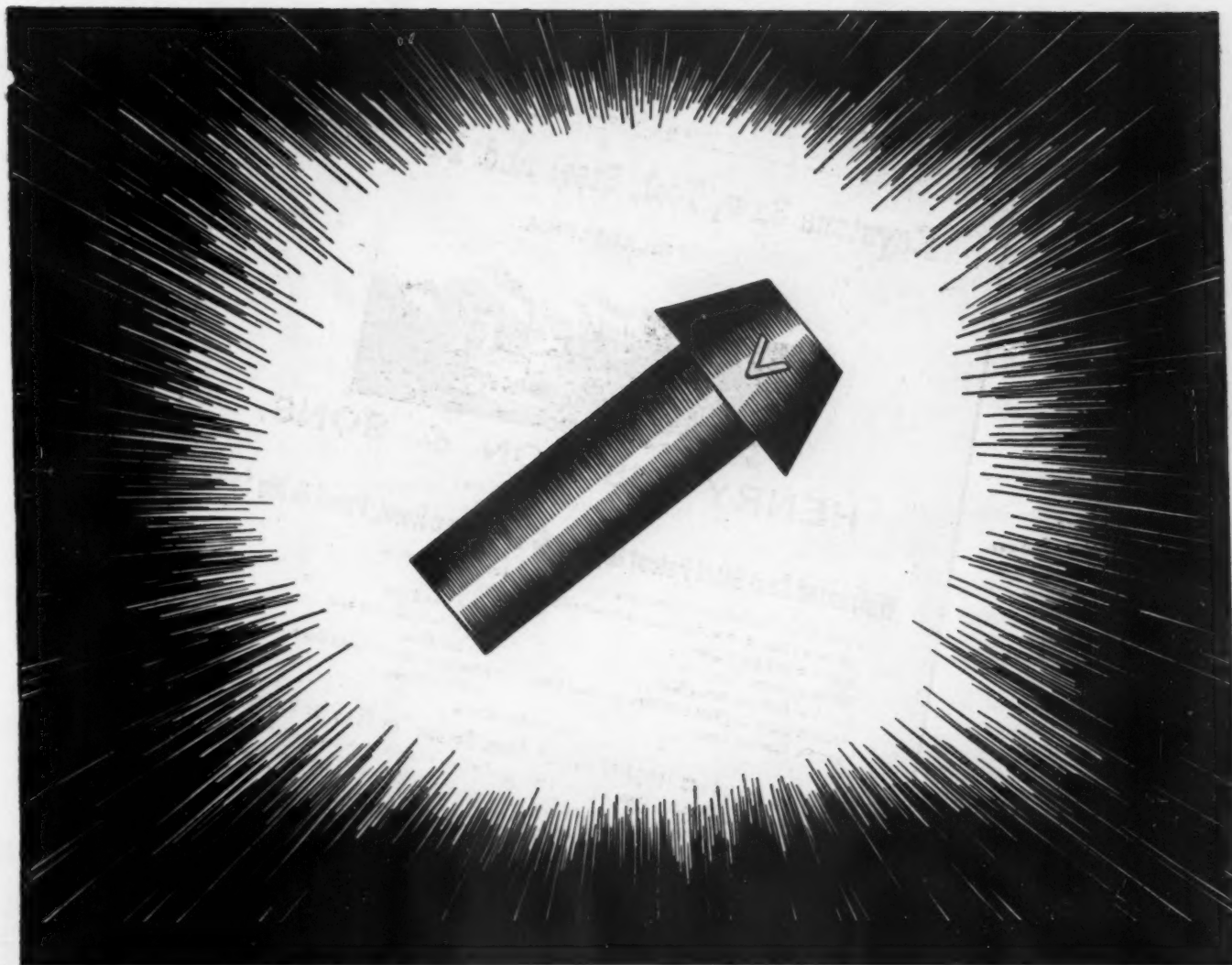


"BUILDING THE CITY OF STEEL"—BY HUGH FERRISS. AN ENLARGEMENT, ON SPECIAL STOCK FOR FRAMING, WILL BE MAILED WITHOUT CHARGE TO ANY ARCHITECT, ENGINEER OR BUSINESS EXECUTIVE.

## AMERICAN INSTITUTE OF STEEL CONSTRUCTION

STEEL INSURES STRENGTH AND SECURITY





## EVERY VICTOR RIVET A QUALITY RIVET

**W**HEN you order one hundred pounds or one hundred tons of Victor Rivets, you receive one hundred pounds or one hundred tons of uniformly good rivets. ▲ Even though selected material, high grade workmanship and the most modern machinery are used in their manufacture, still VICTOR RIVETS are carefully inspected before leaving our plant. ▲

We always work with the thought in mind that the expense to the fabricator and owner caused by a single defective rivet is out of all proportion to the cost of an order of rivets, and that such expense, being a needless tax on industry, should be avoided. ▲ For any job, large or small, the quality of VICTOR RIVETS will prove to be sound economy for you.

*Booklet, "Scientific Facts" upon request*

# THE CHAMPION RIVET CO.

**WESTERN PLANT**

**CLEVELAND, OHIO**

**EAST CHICAGO, IND.**

Manufacturers of VICTOR BRAND BOILER and STRUCTURAL RIVETS — COUPLER and AIR BRAKE PINS





# WHAT will they be like ...in 1940?

What a difference between the "Warranted Cast Steel" saws featured in the early advertisement of Henry Disston & Sons, published in 1874, and the new "Carboloy-Fitted" saws of their current advertising!

Through the intervening years we can trace in the advertising pages of The Iron Age the history of the art of saw-making. We can see the so-called "cast steel" giving way to rolled steel, pro-

gressive improvement in the rolled saw steel through alloying; we can mark the advent of inserted-tooth saws, and now the coming of Carboloy-fitted saws.

Each type was equal to the demands of its time, but its time passed, and progress brought new demands. Disston was quick to meet—to anticipate—changing demands and changing conditions as their advertising shows and as is evidenced by this latest development.

But what of the future? Can it be said that this is the last word in saws, that no further improvement is possible? Hardly! And what is true of saws is true in other lines. It is unthinkable that we have reached the end of development.

The 75th Anniversary Number of The Iron Age to be published November 20, 1930, is dedicated to the idea that the next few years will see still greater industrial development and progress. It will sift from the events of the past facts which may have a bearing on the future. It will look back not merely to review the past but so that we may see ahead more clearly. It will be, in short, a "projection" number.

It will be an issue in which you can tell, to good advantage, the story of the part which your products have played in the past progress of the industry and will play in its future.

## WITH CARBOLOY

### FITTED SAWS

an increase of 7466%. In plywood, casein glued, the increase was 5100% over high-speed steel. In fireproof wood, impregnated with a highly abrasive compound, Disston-Carboloy cut 13,542 feet per grind; a steel saw, 650 feet. Disston-Carboloy Saws are enabling manufacturers in many lines to run their saws at speeds greatly in excess of any speed hitherto.

thought possible, to cut materials which formerly could not be cut with saws; to eliminate machining operations; to adopt new methods and materials; and to effect economies in production which make Disston-Carboloy-Fitted Saws essential.

As a result of these practical applications of Carboloy, Disston engineers can tell you how to apply Carboloy-Fitted Saws and knives to your production problems.

HENRY DISSTON & SONS, INC., Philadelphia, U. S. A.  
Canadian Factory, Toronto  
THE WORLD'S FOREMOST SAW MAKERS



Special type of tooth developed for cutting 18" square piles.

#### PATTERNS and SIZES

Disston-Carboloy-Fitted Saws are made regularly in diameters from 6" to 36", with three sizes of teeth.



Tooth and blade will be designed to meet special requirements.

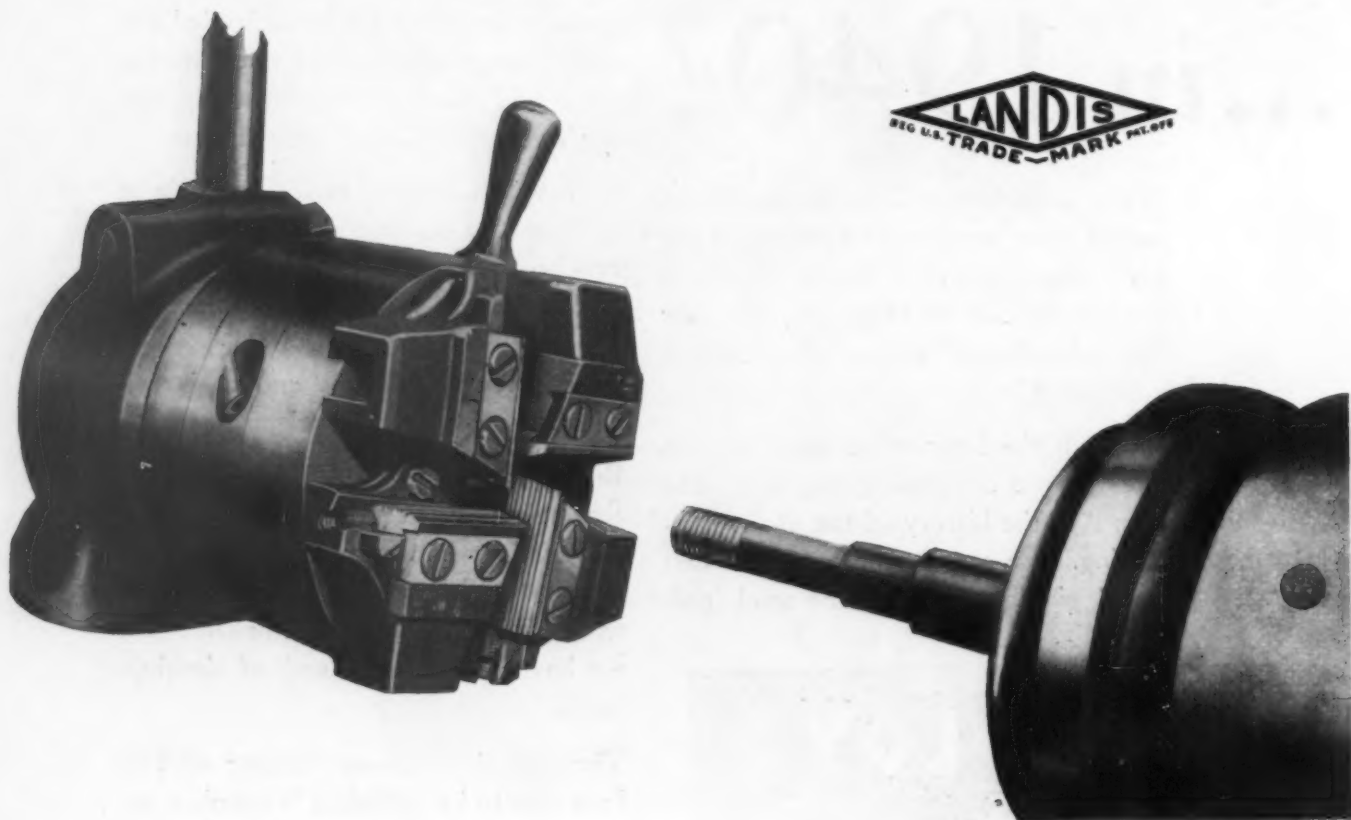
#### STANDARD SIZES

Diameter of Saw	Thickness of Blade	Number of Teeth
6"	10 ga.	6
8"	10 ga.	8
10"	10 ga.	10
12"	10 ga.	12
14"	10 ga.	14
16"	10 ga.	16
18"	10 ga.	18
20"	10 ga.	20
22"	10 ga.	22
24"	10 ga.	24
26"	10 ga.	26
28"	10 ga.	28
30"	10 ga.	30
32"	10 ga.	32
34"	10 ga.	34
36"	10 ga.	36

Disston-Carboloy-Fitted Saws are made with three teeth that is used with other sizes. This is possible because Carboloy has the rate of higher speeds, hold a longer cutting edge, and have a longer cut per tooth.

*A recent advertisement in The Iron Age*

# LANDMATIC HEADS Are ACCURATE!



LANDMATIC Heads are accurate because they are correctly designed and precisely built. Being made of high grade, heat treated steel, LANDMATIC Heads are sturdy and rigid and afford a proper support for a precision threading tool—the LANDIS chaser.

The chasers of the LANDMATIC Head have ample chip clearance—they are readily accessible for set-up changes—and their original accuracy is never lost by regrinding. Their long life effects a substantial saving in tool cost.

*Write today for the details.*

LANDIS MACHINE COMPANY  
Waynesboro, Penna.

Detroit: 5928 Second Blvd.

Cleveland: 504-505 Marshall Bldg.

*Agents in all Principal Cities*

# LANDIS

*for* THREADING



# A NEW IDENTIFICATION MARK

For the UNITED STATES STEEL CORPORATION  
and its Subsidiary Manufacturing Companies



THE Subsidiary Manufacturing Companies of the United States Steel Corporation hold in common this simple ideal of service—constantly to seek improvements for their products, and to make these products available on a basis that assures a full measure of value. The new mark here introduced to you stands for this ideal of service and is a sign of quality. In future advertising and promotion work, it will be used in connection with the well known symbols of this Company.

## American Steel & Wire Company

208 South La Salle St., Chicago      30 Church St., New York  
And All Principal Cities

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

AMERICAN BRIDGE COMPANY

AMERICAN SHEET AND TIN PLATE COMPANY

AMERICAN STEEL AND WIRE COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Bldg., San Francisco, Calif.

CARNEGIE STEEL COMPANY

COLUMBIA STEEL COMPANY

CYCLONE FENCE COMPANY



FEDERAL SHIPB'LDR. & DRY DOCK CO.

ILLINOIS STEEL COMPANY

NATIONAL TUBE COMPANY

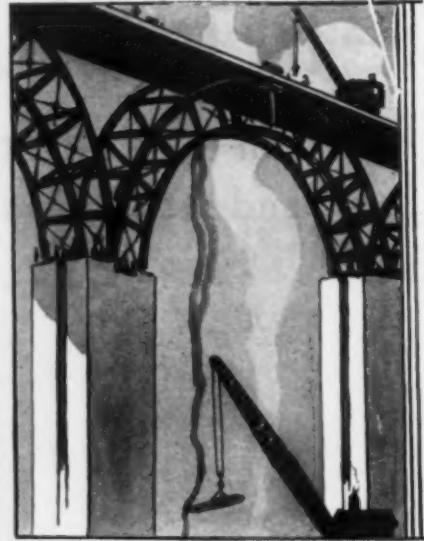
Export Distributors—United States Steel Products Company, 30 Church St., New York, N. Y.

THE LORAIN STEEL COMPANY

TENNESSEE COAL, IRON & RAILROAD CO.

UNIVERSAL ATLAS CEMENT COMPANY

# FAST



**W**HERE great engineering projects are under way—where giant structures rear their heads above the city's bristling horizon—where colossal dams are built to impound billions of gallons of water or where towering bridges extend their ribbon-like highways across vast watery chasms—there you will find Pittsburgh Screw and Bolt Products in preferred demand among engineers and contractors the world over.

They have learned by pleasant past experience that here is a company that can meet both the usual and the unusual requirements in forged rods, bolts, nuts and rivets—quickly, economically and entirely satisfactorily.

Send us your specifications.



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· PITTSBURGH ·

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# HARRISBURG

HARRISBURG PIPE & PIPE BENDING CO., HARRISBURG, PA.

Makers of Alloy Steels in Slabs, Billets, Bars, Shapes and Hollow Forgings; Pipe Coils and Bends, Couplings and Cylinders  
Fully Equipped With Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops  
We are also prepared to fabricate corrosion-resisting and heat-resisting Chrome Alloy Steels.



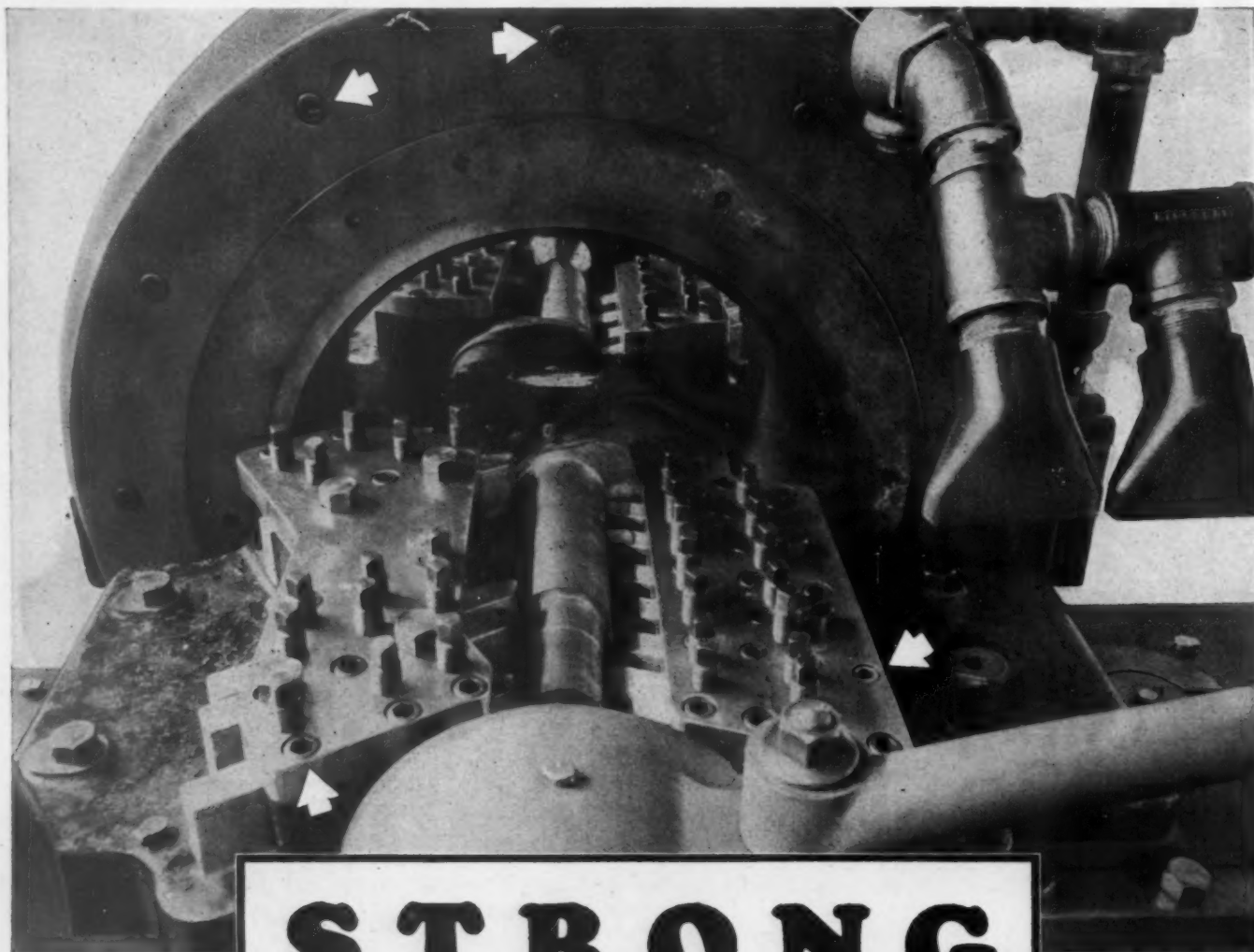
# Mac-its used in FASTERMATICS

**B**UILT for extraordinary heavy duty work, this special FASTERMATIC made by the Foster Machine Company of Elkhart, Indiana, is shown with a tool set up for taking a heavy cut on a huge crank shaft. MAC-IT Hollow Safety Set Screws are used for holding down the plates through which all retaining screws are inserted for holding the many individual tool bits. Here, the MAC-ITS are subjected to the greatest strain

of any of the screws used on the job. MAC-ITS are also used in parts of the machine's construction, as indicated.

*"Where heavy duty is required of either a large or small screw used in places where interferences are not permissible, we always use MAC-ITS," says a company executive.*

MAC-ITS will not break, mushroom at the point or become distorted with long use. Famous machine tool builders use them generously.



*Mac-it Cap Screws are made in Socket, Fillister, Button, Flat, Round, Hexagon and SAE Hexagon Head in a full list of sizes. Price List and samples on request.*

**STRONG  
CARLISLE  
&  
HAMMOND**

*Mac-it Set Screws are made in Hollow, Square-Head, Tool Post, Mining Machine, Railroad Eccentric and Slotted Headless types in a full list of sizes. Ask for catalog.*

1392 WEST THIRD STREET, CLEVELAND, OHIO

# **SUPERIOR CHARCOAL PIG IRON** *for*

## **STRONGER CASTINGS**

Closer grained structure with smaller, nodular shaped graphitic flakes provides greater transverse and tensile strength.

## **LESS SCRAP LOSS**

The fine quality of all Superior Charcoal Iron castings means fewer rejections, less scrap loss—money saved and satisfied customers.

## **ELIMINATION OF SHRINKAGE**

The use of Superior Charcoal Pig Iron in foundry mixtures assures freedom from shrinkage—a most prevalent foundry trouble with ordinary castings.

## **DENSER CASTINGS**

The fine, close grained structure of Superior Charcoal Pig Iron persists through the cupola mixture to the casting.

## **TOUGHER CASTINGS**

Firmly enmeshed, and properly balanced carbon structure imparts toughness to the castings, with more responsive working qualities.

## **EASIER—LESS COSTLY MACHINING**

No breaks, cracks, checks, blow holes, hard spots or other weak areas in charcoal iron castings enables better machining and finishing.

## **BETTER, MORE UNIFORM QUALITY, CASTINGS MEAN HIGHER GRADE PRODUCTS**

The uniform fine quality and desirable working properties of all casting in which even a small percentage of Superior Pig Iron is used results in higher grade finished products. Specify Superior Charcoal Iron Castings and gain the advantages in production, sales and profits that always go hand in hand with better quality.

Our booklet, "Superior Charcoal Pig Iron" gives the history, characteristics, uses and advantages of this oldest and purest of pig irons. Send for a copy.

**SUPERIOR CHARCOAL IRON CO.**  
**GRAND RAPIDS • MICHIGAN**  
DEBEVOISE-ANDERSON COMPANY, INC., Eastern Representative  
NEW YORK . . . BOSTON . . . PHILADELPHIA

# FOUNDRY EQUIPMENT ENGINEERED FOR HIGHEST QUALITY CASTINGS

*Providing facilities  
for  
maintaining strict  
standards*



*Molds for heavy automobile castings are handled on car type conveyors.*

*Conveyors carry the mold to the pourers and then on to the shakeout.*

• There can be no compromise with quality in the heavy gray iron castings produced by the Allyne-Ryan Foundry at Cleveland for the automobile industry. And a modern handling and conveying installation, engineered by Bartlett & Snow, is an important factor in meeting the required standards.

Allyne-Ryan officials and engineers recognized that saving molders' time and strength to take full advantage of their skill and

craftsmanship promised a better and more uniform product. A Bartlett & Snow installation, engineered to the requirements, resulted in the advantages sought.

Molds are handled on heavy car type conveyors from the molding section, through pouring, to the shakeout. A monorail returns flasks to the molders. From the shakeout, sand passes through a continuous reconditioning process to the storage bin, where it is kept, properly

tempered, until delivered to the molders' hoppers.

Bartlett & Snow Equipment brings many advantages to foundries of every type. These improvements are not limited to larger foundries. Many small foundries find the way to greater production and improved quality with Bartlett & Snow equipment engineered to their needs. Write, without obligation, for more information about your specific problems.

**THE C. O. BARTLETT & SNOW COMPANY • 6202 Harvard Avenue, Cleveland, Ohio**

REPRESENTATIVES FOR THE DOMINION OF CANADA  
PEACOCK BROTHERS, LIMITED, MONTREAL

REPRESENTATIVES FOR  
GREAT BRITAIN  
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SMETHWICK, NEAR  
BIRMINGHAM

# BARTLETT-SNOW

EUROPEAN  
REPRESENTATIVES  
Ci-devant  
Georges Fischer  
Schaffhouse,  
Switzerland.



# Yes, orders are scarce but they're all marked "RUSH!"



WHEN that order you've worked on so hard finally comes through and you've got to have bolts in a hurry, remember Russell, Burdsall & Ward's great bolt plants at Port Chester, Coraopolis and Rock Falls . . . . . 24-hour delivery to most important industrial centers—overnight to many. The world's best known bolts—when you need them!

**RUSSELL, BURDSALL & WARD  
BOLT AND NUT COMPANY**

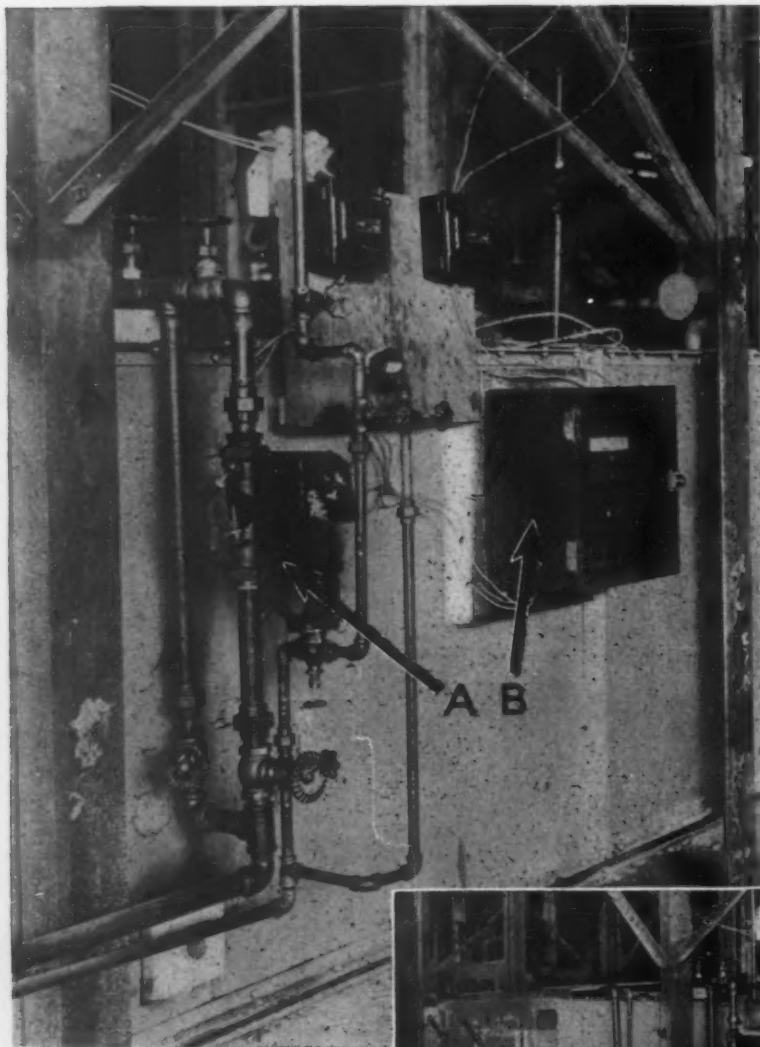
Rock Falls, Ill.

Port Chester, N. Y.

Coraopolis, Pa.



# The attention of forward-minded men in industry ~ ~ ~ ~ ~ Centers Upon Automatic Control



Above: Bristol's Pyrometer Controller and Bristol's Motor Operated Controller Valves. (A) shows Controller Valve; suggesting simple, convenient piping arrangement. (B) is Model 479 Pyrometer Controller mounted in new style all-metal protection case.

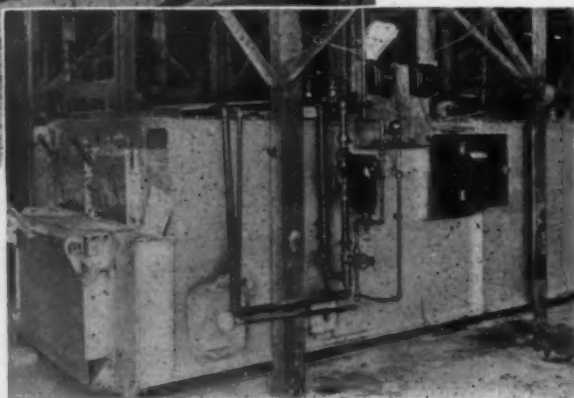
## FIELD ENGINEERING SERVICE

To aid in checking over control possibilities in your plant, Bristol's Field Engineering Service will gladly be placed at your disposal—without obligation.

Present day demands for greater operating economy and all-round high efficiency has caused attention to be centered more and more upon the "Automatic Control" factor in production. This is particularly true where such control is applied to heat processing—where successful operation necessitates the maintenance of constantly uniform temperatures.

The answer to many of these temperature control situations can be found in the very complete line of Bristol's Control Equipment—available for use in connection with oil, gas or electrical heated furnaces, ovens, etc., to operate within selected control ranges up to 3000° F.

Reliability and accuracy have been thoroughly tested on thousands of industrial control jobs. Design throughout is simple, and construction sufficiently rugged to assure continued accuracy and trouble-free operation for years under all ordinary service conditions.



Get complete details! Catalogs, bulletins will be sent to any interested person in your plant. Write direct to THE BRISTOL COMPANY, Waterbury, Conn., or to nearest Branch Office.

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Waterbury Connecticut

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**BRISTOL'S**  
SINCE 1889  
Instruments for Indicating Recording Controlling



**The Modern Method of Removing  
Scale and Oxides**

Complete and rapid removal of scale and oxides from heat treated surfaces now can be positively accomplished by the Bullard-Dunn Process.

First machining operations of parts cleaned by the Process are improved and longer runs between tool grinds are obtained.

Savings of productive time and labor occur by the early detection of inherent defects.

Chemical injury such as pitting, etching and hydrogen embrittlement is absolutely prevented.

The Bullard-Dunn Process offers unique advantages and real economies worth investigating. Full information will be sent upon request.

BULLARD-DUNN PROCESS DIVISION

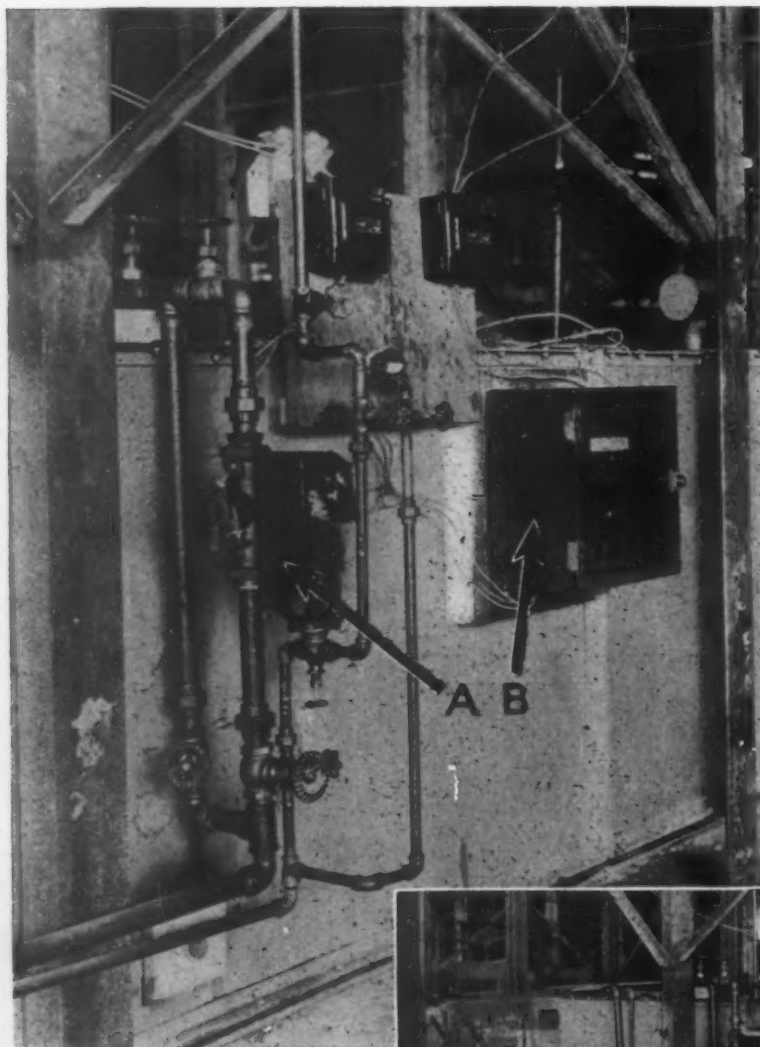
**The Bullard Company**

Bridgeport, Connecticut





# The attention of forward-minded men in industry ~ ~ ~ ~ ~ Centers Upon Automatic Control



Above: Bristol's Pyrometer Controller and Bristol's Motor Operated Controller Valves. (A) shows Controller Valve; suggesting simple, convenient piping arrangement. (B) is Model 479 Pyrometer Controller mounted in new style all-metal protection case.

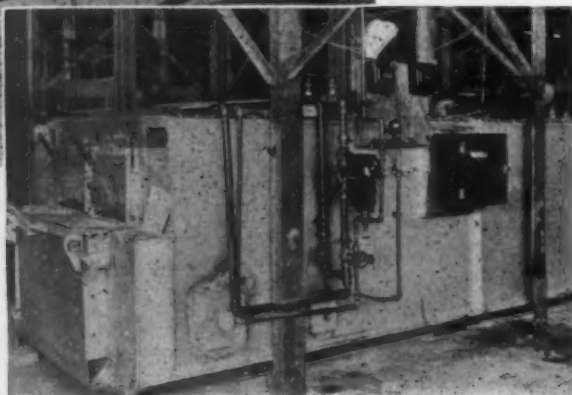
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**BRISTOL'S**  
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BULLARD-DUNN PROCESS DIVISION

**The Bullard Company**

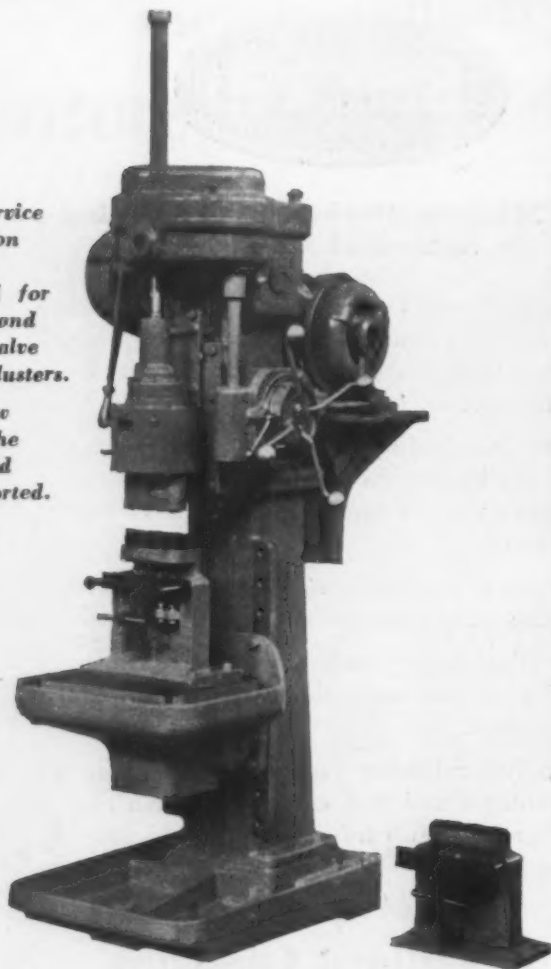
Bridgeport, Connecticut



## For Accurate Production Drilling

A  
Super-Service  
Production  
Drill  
equipped for  
drilling and  
boring valve  
tappet clusters.

Note how  
rigidly the  
drill head  
is supported.



## This Drill Has No Handicaps

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The SUPER-SERVICE Production Drill is the latest word in upright drill presses. It is a specialized production tool—essentially a one speed, one feed machine . . . but a quick transposition of a few gears gives a range of 16 speeds and 16 feeds.

The general purpose features of this tool have been dispensed with—but great flexibility and adaptability to a wide range of work is retained. There is “single-purpose simplicity with general purpose flexibility”—profitable production without handicaps.

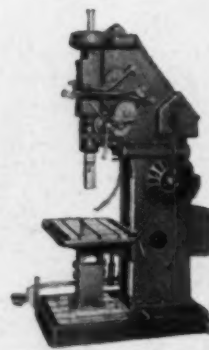
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## SELF-OILING ALL-GEARED DRILLING AND HONING MACHINES

cut costs  
and  
increase  
production



No. 242—Capacity 2"  
swing 24".

Write today  
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Catalog I

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Drilling Machinery  
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One to Six Spindles

Tapping Attachments and Multiple Heads

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can be furnished in multi-spindle vertical, horizontal and turret type machines. Write for catalogue of these high production machines of 1/2" capacity.

**Kingsbury Machine Tool Corp.**  
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BETTS—COLBURN—NEWTON—MODERN—HILLES & JONES

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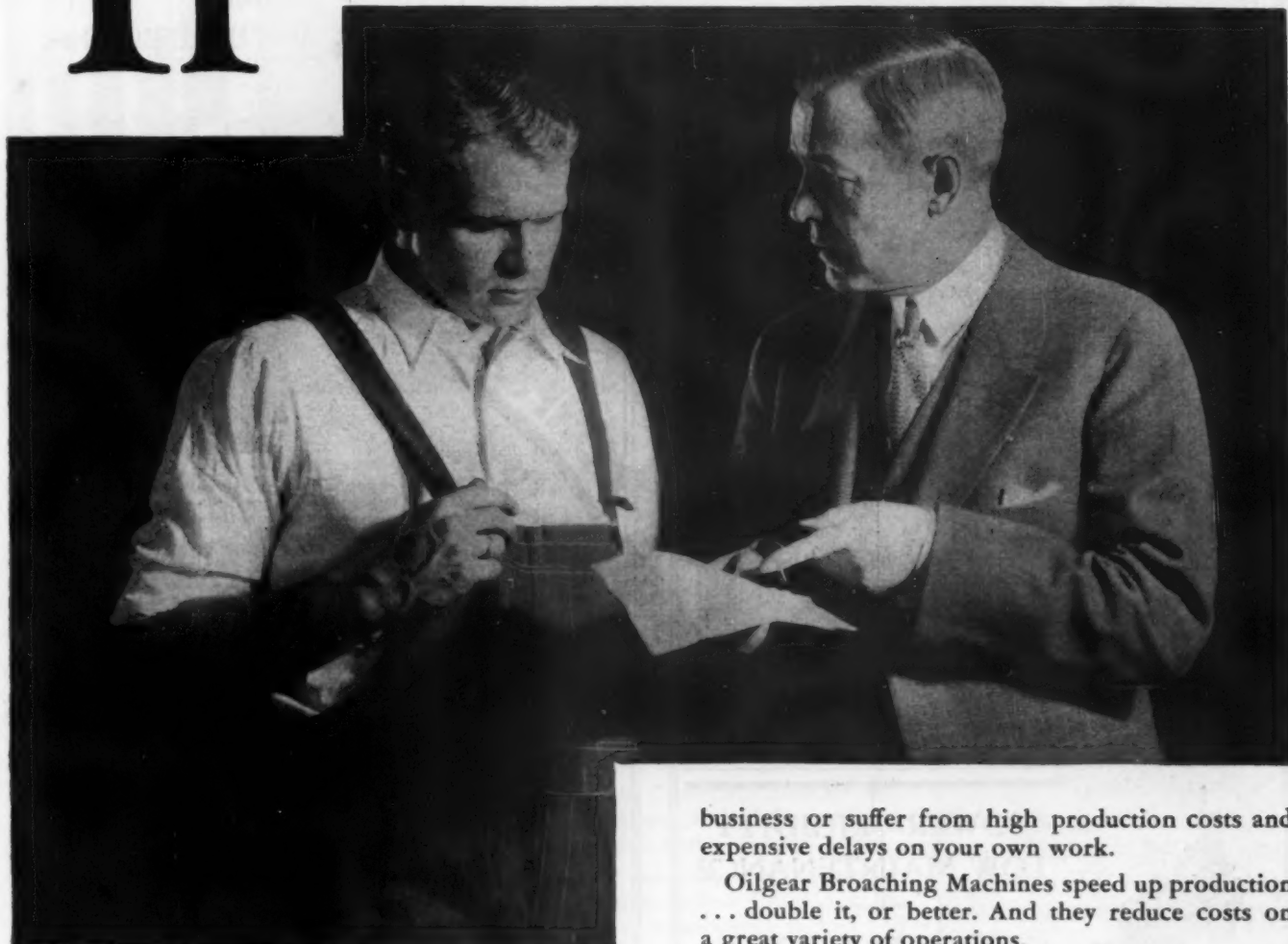
1600 Hamilton Street

Philadelphia, U. S. A.

Builders of Heavy Machine Tools for 80 Years



# "If we only had faster machines"



"**H**ERE is a letter . . . just came in . . . from some people who want ten thousand rocker arm hubs, like the blue print, splined and finished inside. They'll have the blanks delivered from their foundry if we can handle the job. But can we handle it? They want the finished parts in a hurry . . . specify a delivery date that I'm afraid we couldn't even come close to. No? Just as I thought. Well, we'll have to pass it up. Too bad! If we only had faster machines. . ."

How often this happens. Perhaps it happens to you. Due to inadequate, slow machines, you lose jobbing

business or suffer from high production costs and expensive delays on your own work.

Oilgear Broaching Machines speed up production . . . double it, or better. And they reduce costs on a great variety of operations.

Oilgear power is so smooth, so positive, that chatter is eliminated. Breakage is practically done away with. Speed of feed is controllable—adjustable, steplessly, to exact requirements. And Oilgear broaching is susceptible to the closest limits.



Get the facts. Learn about Oilgear Broaching Machines, how they serve and save . . . how they speed the job. Write for Oilgear Bulletins 2000 and

2001. THE OILGEAR COMPANY, 1303 W. Bruce St., Milwaukee, Wis.

## OILGEAR

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PUMPS .. FEEDS .. TRANSMISSIONS

—With 24" to 72" Variation  
In Working Heights—

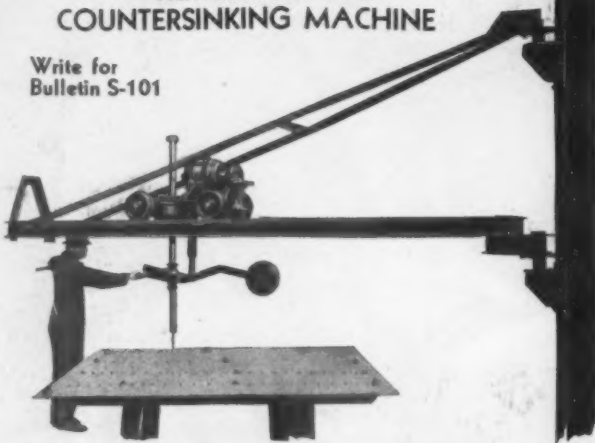
MOTOR driven vertical adjustment unit (optional) adapts this machine to operation at different levels, permitting continuous operation without moving the work. The result is economy and increased production on all types of industrial or structural shop work. Write for detailed specifications, prices.

LAKESIDE BRIDGE & STEEL COMPANY  
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DRILLING  
REAMING and  
COUNTERSINKING MACHINE

Write for  
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## Cone 4-Spindle Automatics

Are economical and accurate producers of screw machine parts up to 4 3/8" to 7" milling length. They cut costs, increase production, boost profits.

Write for particulars

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Indiana: G. A. Richey, Chamber of Commerce Bldg., Indianapolis, Ind. Francisco, Calif.

CONFIDENCE

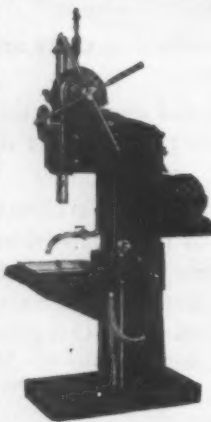


USERS have confidence in Monarch Helical-gear Timkenized Lathes because they are guaranteed to give complete satisfaction. Write for 44-page catalog No. 132.

THE MONARCH MACHINE TOOL CO.  
Sidney, Ohio, U. S. A.

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Helical Gears - Timken Bearings  
SMOOTHER... QUIETER... MORE POWERFUL



POWER—RIGIDITY  
LOW MAINTENANCE

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LATHES-TOOL ROOM GRINDERS



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Thomas Spacing Machine Co.  
Chicago Pittsburgh Philadelphia

## BAKER

Vertical Boring and  
Drilling Machines  
Cylinder Bore  
Keyseaters

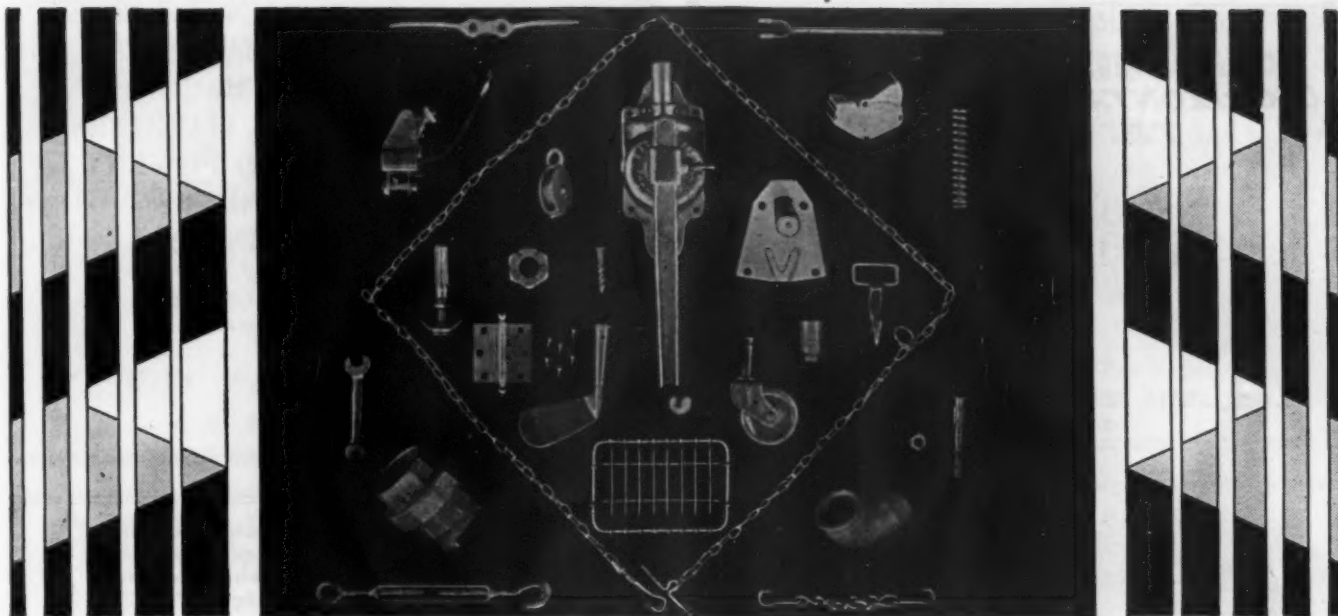
BAKER BROTHERS, Inc.  
TOLEDO OHIO, U. S. A.

LATHES  
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SHAPERS

# The AMERICAN TOOL WORKS Co.

CINCINNATI U.S.A.





*Their Enhanced*  
**ATTRACTIVENESS and DURABILITY**  
*Help Sell Your Product—*

#### CADALYTE

##### A Process and Product for Cadmium Plating

The CADALYTE process is an exclusive Grasselli method of electro-depositing pure metallic Cadmium on iron and steel products to protect them against rust and give them an attractive finish.

CADALYTE, the product, is a dry mixture of all the chemicals required for the plating solution. It requires only the addition of water. Grasselli Cadmium Anodes assure an electro-deposit which is 100% pure Cadmium metal.

WHEREVER metal parts must be economically protected against rust, Cadmium plating has filled a need.

In developing the CADALYTE process and product for Cadmium plating, Grasselli has played an important part in metal protection.

The CADALYTE process, employing the Grasselli electrolyte called CADALYTE, imparts an attractive appearance to iron and steel products and at the same time affords the maximum degree of rust-proofing with the minimum of metal.

The great advantage of the CADALYTE process is that plating costs are lower by this process than by any other.

Write for the CADALYTE booklet. Or phone the nearest Grasselli branch for a technical expert in metal protection to consult with and advise you on metal plating costs and processes.

#### GRASSELLI CHROMIC ACID Over 99% Pure

For Chromium Plating, the high quality of Grasselli Chromic Acid is always uniform. This electrolyte produces a bright, shining surface, which will not tarnish.

It is an accepted fact that the purer and harder a metal, the less easily it is corroded or scratched. With Grasselli Chromic Acid and Grasselli Chemicals, the purest possible metal is deposited.

THE GRASSELLI CHEMICAL COMPANY  
 INCORPORATED



CLEVELAND, OHIO

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Birmingham	Brooklyn	Chicago	Detroit	New Haven	Paterson	Pittsburgh		St. Paul

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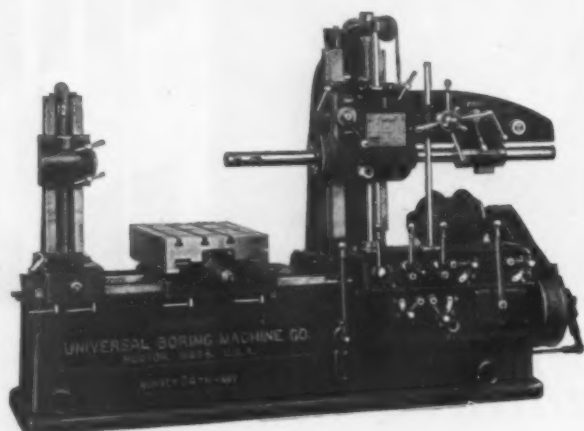
Represented in Canada by CANADIAN INDUSTRIES Ltd., Heavy Chemicals Div., Montreal and Toronto.

**GRASSELLI GRADE**  
*A Standard Held High for 91 Years*



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(HORIZONTAL) BORING MACHINE  
TRI-WAY TYPE**

For Tool Room Work  
and large production



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Horizontal Boring, Drilling and Milling Machine  
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**The Improved No. 3 Lapointe  
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Guaranteed to pay for itself in one year's time by increased production.

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OF ALL SIZES AND DESCRIPTIONS

*Quality and Service*

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**MILWAUKEE MILLING MACHINES  
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SPECIAL MACHINERY**

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**Milling Machines • Grinding Machines  
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Cutters and Hobs • Machinists' Tools  
Gears Cut to Order**

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***Gray Planers***

**FOR MAXIMUM SERVICE**

Double-Housing Openside and Switch Planers

The G. A. Gray Co., Cincinnati, Ohio

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**THE  
CLEVELAND  
PLANER CO.**  
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**SHAPERS and GEAR CUTTING MACHINES**

**GOULD & EBERHARDT**

ESTABLISHED 1833  
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simply designed  
but accurate and  
efficient

12-in. to 32-in. Stroke (Inclusive)

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Cincinnati, Ohio, U. S. A.



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AND STERLING GRINDING MACHINES

**THE STERLING  
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Abrasive Division of The Cleveland Quarries Co.  
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ELECTRIC GRINDERS - BUFFERS  
PORTABLE ELECTRIC TOOLS  
The CINCINNATI ELECTRICAL TOOL CO.  
CINCINNATI, OHIO, U. S. A.  
*Write for complete catalog*

Blanchard Vertical Surface Grinders for production and accuracy.

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**BLANCHARD MACHINE CO.**  
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**ABRASIVE SURFACE GRINDER**

Either Horizontal or Vertical Spindle Type  
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*Get our bulletin for particulars*

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Belt or motor drive  
10 to 30" wheels, Ball Bearings, Steel Guards  
BRIDGEPORT SAFETY EMERY WHEEL CO.  
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*For True Economy in Flat Surface Finishing, Investigate*

**Gardner Disc Grinders**

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**Surface Grinder**  
Rapid, Accurate and Economical  
*Send for Blue Catalog*  
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**RADIAL GRINDERS**

No. 510

Here is a Radial Grinder to take the place of your old swing grinder. It is more powerful, more convenient, and has a wider range of work. Ask for a circular today.

MUMMERT-DIXON CO.  
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**UNIVERSAL GRINDING MACHINES**

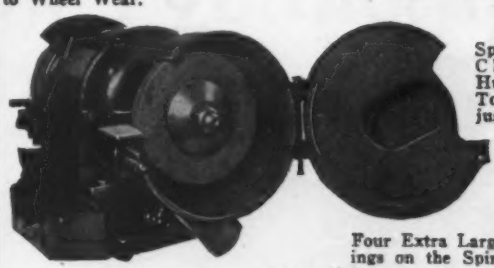
Thompson 12" x 36" Universals

Combine in a single machine facilities for every possible grinding operation required in a machine shop. Write for Bulletin No. 18.

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**BLACK & DECKER HEAVY DUTY GRINDERS ARE SAFE!**

Electric Cast Steel Guards Automatically Adjustable to Wheel Wear.




Spark Lip and Chip Breaker Hugs Wheel as Tool Rest is adjusted.

Four Extra Large Ball Bearings on the Spindle.

No Vibration—Heavy Construction of Best Materials.

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**Standard Ball Bearing Grinders and Buffers**

Made in sizes from 1/4 H.P. to 10 H.P.  
Drills, Center Grinders, Hand Grinders.

*Write for Catalog and Price List.*

The Standard Electrical Tool Co.  
1948 W. Eighth St., Cincinnati, Ohio



**THE KELLERFLEX**

A Flexible Shaft Machine of a Hundred Uses  
Automatic Adjustment to position. Speed range 875 to 18,500 R.P.M. Power . . . Flexibility . . . Control. Equipped for Die Sinking, Tool Making, Polishing, Grinding, Paint Removal, Routing, Milling, Drilling and Snagging. New uses being found daily.


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Hand Stoker for Steam Boilers  
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PIPE AND BOLT THREADING  
TUBE CUTTING  
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THE COX & SONS COMPANY, Bridgeton, New Jersey




**ECONOMY ENGINEERING CO.**

HEADQUARTERS FOR BOLT & CAP SCREW MACHINERY


POINTING-THREADING & SHAVING MACHINES

WILLOUGHBY-OHIO *Write for Catalog*



**PIPE THREADING MACHINES**

BIGNALL & KEELER MACHINE WORKS  
EDWARDSVILLE, ILLINOIS



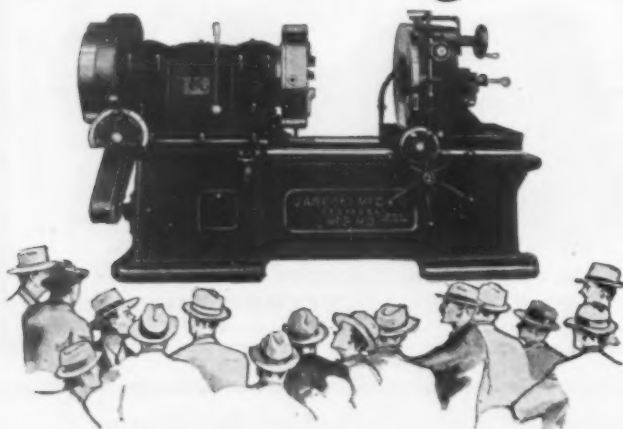
Pipe Cutting and Threading Machines give Economy

Hand—Belt—Electric  
Ranges 1/4"-2" to 8-16"

The Curtis & Curtis Co.  
327 Garden St. Bridgeport, Conn.  
Most Threads Per Dollar Invested



## Announcing



## A New Conception of PIPE-THREADING

Speed . . . Economy and Efficiency

JARECKI is pleased to announce the greatest advance in recent years in Pipe-Threading equipment—a new Heavy Duty, High Speed Threader offering, among other advantages:

*Faster threading than has hitherto been possible . . . Drastically reduced production costs . . . Lower die and power costs . . .*

A newly designed, patented die head that automatically opens the dies when the correct length of thread has been cut; TIMKEN ROLLER BEARINGS THROUGHOUT; double the threading speed and more than double the cutting-off speed provided by standard equipment—these are just a few of the features. Others are detailed at the right.

For the FULL story of this remarkable development, write today for Bulletin "A"

### FEATURES

One automatic self-opening die head covers complete capacity range.

One set of H. S. S. chasers threads complete standard range—changeable only for thread or pitch variation. (In the 8' machine shown from 2½" to 8" without change).

Chasers are easily and quickly changed. Screw-driver only tool required.

Chasers held in massive holders—no bushings.

Die-opening trigger automatically opens chasers at correct thread length.

Cutting off and chamfering at same operation.

Gears are steel-cut, running in oil. Hardened chrome-nickel steel wearing parts.

TIMKEN ROLLER BEARING equipped.

Extremely sturdy construction, based on half a century's experience in building threading machines. Exceptional reliability.

# Jarecki

MANUFACTURING COMPANY

Erie, Pa., U. S. A.

## SAUNDERS PIPE THREADING and CUTTING MACHINES

In sizes from ¼" to 18" inclusive  
Motor or belt driven. Catalogue on request  
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Shear Cut

### METAL CUTTING

There are Racine Machines for every metal-cutting job.

The Shear Cut for Production Work.

The High Speed Saw for Regular Cutting

The Band Saw for Wood and Metal

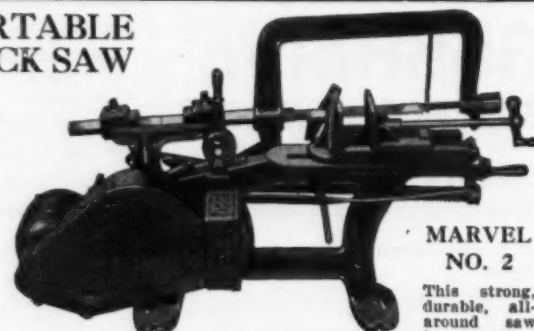
The Abrasive Cutter for Hardened Steels

Accuracy, speed and long life are inbuilt characteristics of this equipment. Write.

**RACINE TOOL & MACHINE CO.**  
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### PORTABLE HACK SAW

Write  
Us  
Today



MARVEL  
NO. 2

This strong, durable, all-around saw is a practical

and welcome addition to any shop. Belt or motor driven.

Let this marvel saw do your work.

**Armstrong-Blum Mfg. Co.**

349 N. Francisco  
Ave., Chicago, Ill.

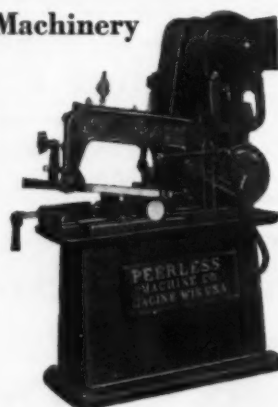
### Peerless Metal Sawing Machinery

Twenty years of specializing in the manufacture of fine metal sawing machinery has resulted in the present Peerless Line.

**PEERLESS STANDARD TYPE HIGH SPEED METAL SAWING MACHINE:** Size 6" x 6", Single Speed, Motor Driven. Similar machines in 9" x 9" or 13" x 16" capacity also is available.

Also manufacturers of Peerless Universal Type High Speed Production Sawing Machines and Peerless Vertical Type Heavy Duty Saw for bars, billets, and Die Blocks.

**Peerless Machine Co.**  
1218-16th St., Racine, Wis.  
New York Office, 15 Warren St.



*Cutting Off  
Machines for  
Sawing All Kinds  
of Metals*

**THE ESPEN-LUCAS MACHINE WORKS**  
FRONT AND GIRARD AVE. PHILADELPHIA, PENNA.

## COCHRANE-BLY CO. ROCHESTER, N. Y.

METAL SAWING MACHINES  
SAW SHARPENING MACHINES  
DIE SHAPERS & FILING MACHINES



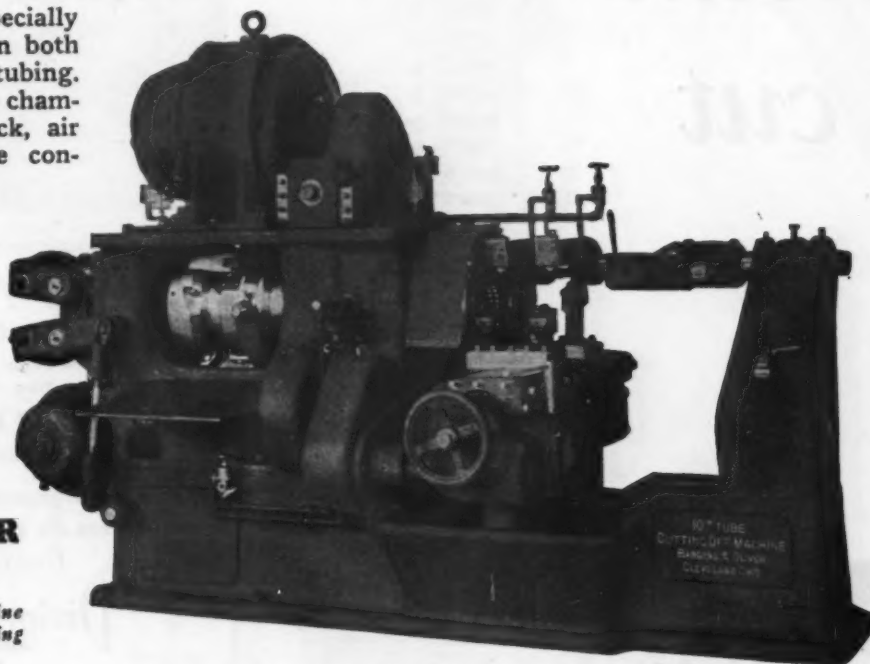
# Real Cutting-Off Production Plus Ease of Operation

**D**ESIGNED and built especially for productive work on both thin and thick wall steel tubing. Multiple cutting-off, multiple chamfering. Collet form of chuck, air operated with control valve conveniently located. Roller feed, controlled by the same motion that operates the collet. Quick return to the tool slides.

Made as shown in 6-in., 8-in., 10-in. and 14-in. sizes. Other types for smaller tubes and bars. Let us send you circulars and other information.

**BARDONS & OLIVER**  
Cleveland, Ohio

*We Also Manufacture a Large Line  
of Turret Machinery for Finishing  
Cast Iron, Steel and Brass*



**Twist Drills—Hobs  
Milling and Gear Cutters  
Reamers—Carbon or  
High Speed Steel**

*Specialists in laying out and designing  
Cutters for production work.*

**UNION TWIST DRILL CO.**  
ATHOL, MASS.

Twist Drills  
Reamers

See our advertisement in  
the September 18th issue

Screw  
Extractors



The **CLEVELAND** TWIST DRILL  
COMPANY  
CLEVELAND  
NEW YORK CHICAGO LONDON  
SAN FRANCISCO

## SPECIAL TAPS



Solid or with  
Inserted Chases  
*May We  
Supply You?*

THE PIPE MACHINERY COMPANY  
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## MURCHEY Self-Opening Die Head

Especially adapted to precision work. Chasers easily removed without taking off cap. Write for details.

**MURCHEY MACHINE & TOOL CO.**  
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**Die Sinking  
MILLING CUTTERS**

**S**TANDARD designs for every cutting need or special cutters built to your prints and specifications. Practical designs, best materials, finest workmanship and heat treatment that reduces breakage and re-sharpening to the minimum.

*Write for bulletin and prices*

**THE TOMKINS-JOHNSON CO.**  
JACKSON, MICH.

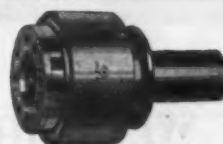
*Representatives in All Principal Cities*



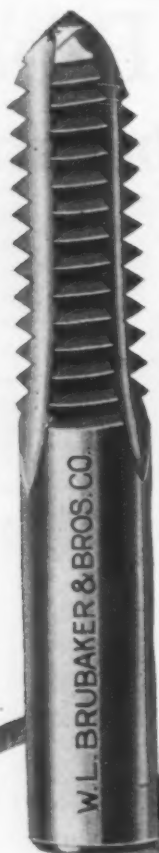
**CUT THREADS  
BETTER  
QUICKER  
CHEAPER**

Sizes and Styles  
for All Machines  
See our advertisement for detailed information on page 61 of September 4 issue.

**THE EASTERN MACHINE SCREW CORPORATION**  
21-41 Barclay St. New Haven, Conn



# Clean cut



**T**HE very appearance of a BRUBAKER Electrical Tap tells you it is a master tool in its field. The materials show quality, the design is mechanically correct for its purpose and scientific heat treatment insures uniform temper. The Taps, consequently, cut clean, true to size and stand up unusually long between grinds. A tool that cuts faster, cleaner and lasts longer is a low-cost tool at any price. Try an order of BRUBAKER Electrical Taps and prove the truth of this.

**W.L. BRUBAKER & BROS. CO.**  
FACTORY, MILLERSBURG, PA.  
Sales Office: 50 Church St., New York

Self Opening Die Heads    Receding Chaser Taps  
Collapsing Taps    Solid Adjustable Die Heads  
Solid Adjustable Taps    Chaser Grinders  
   Threading Machines

## THE GEOMETRIC TOOL COMPANY

New Haven, Conn.

*If it is a screw thread, Geometric has the tool to cut it*

## THE SAFETY GRINDING WHEEL & MACHINE CO.

"Since 1892"

Springfield  
Ohio.



## Emery Wheel Dressers

Two Sizes

**CUTTERS**

Nos. 1-2

We make the regular Huntington (Pattern) for all sizes. Roughing for Nos. 1 and 2. Paragon for No. 1 only.

**GEO. H. CALDER, Lancaster, Pa., U. S. A.**

Pointers on Buffs for the Purchasing Agent  
*Copy mailed on request*

**Divine Brothers Company**

Utica, N. Y., U. S. A.

*Abrasive Metal Finishing Engineers*



## DICKINSON "Diamond"

Tools for truing Large, Coarse and Hard Emery Corundum, Carborundum, Alundum, Crystolon or other abrasive wheels give the greatest amount of service with a minimum of wear on the diamond. Diamonds can be set in any style of holder desired. We have had a great many years' experience in the manufacture of Diamond tools and are thoroughly familiar with what is required of them.

**THOS. L. DICKINSON, 34 Gold Street, New York**

Established 1786. Successor to John Dickinson

## DISSTON HIGH-SPEED STEEL HACK-SAW BLADES

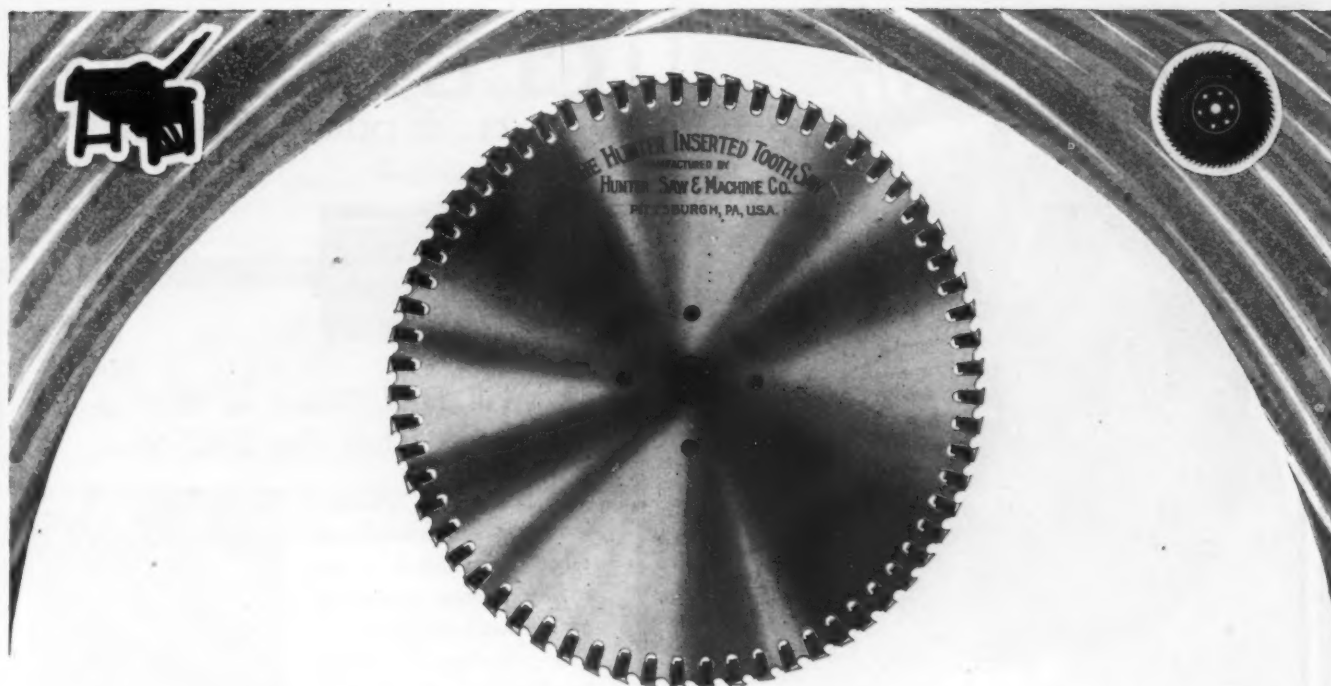
Cut metals that  
ruin ordinary  
blades. Last 6 to 12

times as long; cut  
twice as fast. Write  
for information.

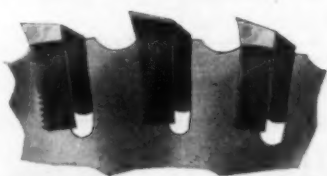
**HENRY DISSTON & SONS, Inc., Philadelphia, U. S. A.**

for ***FASTEST***  
**SHEET METAL CUTTING**  
USE —  
**TANNEWITZ**  
**HIGH SPEED**  
**BAND SAWS**  
WRITE FOR BULLETIN - GH  
**The TANNEWITZ WORKS**  
GRAND RAPIDS, MICH.





# HUNTER *faces* . . . . . the future with a New Saw Design



Close up of Inserted Tooth Saw illustrating method of locking teeth into position. Note serrations on left side of teeth, also that bottom of each tooth has a bearing on the body of the saw.

We also manufacture  
High Speed Metal Cut-  
Off Saws, Saw Grinders,  
Circular Milling Saws,  
Pneumatic Rivet Sets,  
Chisel Blanks and Hard-  
ened Steel Specialties.

In this new design of inserted tooth saw Hunter has anticipated future demands for high speed cutting of tough materials.

Both teeth and pocket are serrated—teeth lock firmly in saw avoiding possibility of teeth moving during cutting operation—bottom of tooth has solid bearing on body of saw—teeth are adjustable up and down on serrations.

Another advantage is ease of grinding—teeth are ground in the saw. The only time it is necessary to remove teeth is for replacement.

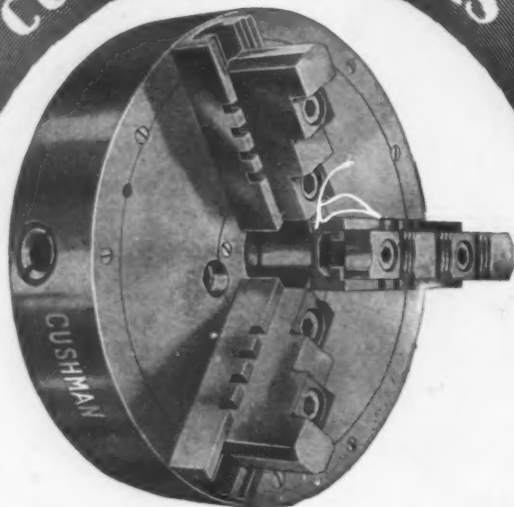
If you are not facing future demands with saws designed to cut tougher metals at higher speeds it will pay you to investigate this new Hunter Inserted Tooth Saw.

Get started in the right direction now. Address inquiry to Hunter at location given below or a representative will call at your suggestion.

**HUNTER SAW AND MACHINE CO.**  
5660 BUTLER STREET,  **PITTSBURGH, PENNA.**



## CUSHMAN CHUCKS



### The Air-Tight or No. 30

Air-Tight — Water-Tight — Dust Proof

Ask for Catalogue No. 47

We build Chucks for Lathes of every description

THE CUSHMAN CHUCK CO. HARTFORD, CONN. U.S.A.

NEW YORK

CHICAGO

SAN FRANCISCO

## CLEVELAND

### CLOSE QUARTER DRILLS



Made in  
2 Sizes  
38 and 49  
with Nos. 3  
and 4  
Morse  
Taper  
Sockets  
Respec-  
tively.

Will Drill Closer to Wall or  
Corner Than Any Drill Made

The body and cylinders  
are cast en bloc—one-  
piece-construction — in-  
suring perfect alignment  
of all working parts.  
The V-shaped front-  
head makes the drilling  
in corners easy.



Write for Bulletin No. 30

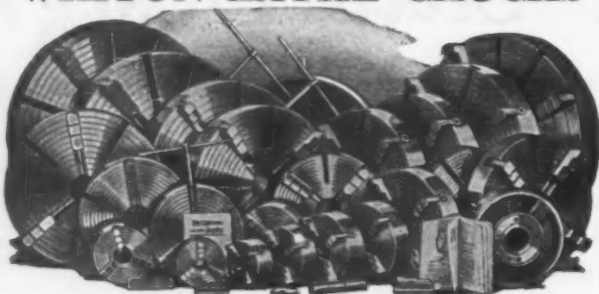
BRANCH OFFICES IN ALL THE LARGE CITIES

The Cleveland Pneumatic Tool Co.

3734 E. 78th St., Cleveland, O., U. S. A.

Agents for British Isles  
John Macdonald & Co. (Pneumatic Tools), Ltd.  
Glasgow, Scotland.

## WHITON LATHE CHUCKS



Complete lines of Independent, Universal and  
Combination Chucks  
Lathe and Drill Chucks

THE D. E. WHITON MACHINE CO.

New London

286 Howard St.

Connecticut

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### Air Hammer Rivet Sets

are the most economical in the  
long run. They never chip off  
or upset in the barrel of the  
hammers, and being made of  
Vanadium steel, they outlast the  
ordinary rivet set.

Shipped on approval.  
Prices on Application.

GEO. F. MARCHANT  
COMPANY

1422 So. Rockwell St., Chicago



QUALITY COLLETS  
AT MASS  
PRODUC-  
TION  
PRICES

RIVETT  
LATHE &  
GRINDER CORP.



COLLET CHUCKS

Send for special collet booklet

SIZES FITTING LEAD-  
ING MAKES  
of BENCH  
LATHES  
AND  
ENGINE  
LATHES

BRIGHTON  
DISTRICT  
BOSTON, MASS.

## "LOGAN"

New Foot Control Units for  
Air Operated Devices

Among the items in the NEW CATA-  
LOG 5-35:

Air Valves, Chucks, Cylinders (rotating and non-rotating), Arbor  
Presses, Ejecting and Reducing Valves, Special Devices. Write

THE LOGANSPORT MACHINE CO.

Logansport, Indiana



# Thor



## CHIPPING HAMMERS

Smooth-running, powerful and speedy. A simple, effi-  
cient valve mechanism minimizes vibration. Barrel  
is made of high grade alloy steel. Bore is hardened,  
ground and lapped. Made in two types—"sleeve"  
and "spool" valve. Write for catalog.

INDEPENDENT PNEUMATIC TOOL CO.  
616 W. JACKSON BLVD., CHICAGO

**Save All Forgings 70% of Grinding**

FOR every operation of Laths, Planer, Slotter and Shaper. Over 10 modifications of shape and size.

**ARMSTRONG TOOL HOLDERS**

Catalog B-27 sent on request  
ARMSTRONG BROS. TOOL CO., CHICAGO



Look for this Mark  
—the quality sign of  
"The Tool Holder People."

**Cincinnati Press Brakes**  
*All Steel*

See our full page every other issue  
or write direct to — THE CINCINNATI SHAPER CO.  
CINCINNATI, OHIO  
Cincinnati Shapers  
*Rapid Inverse*



*Speed with Safety*

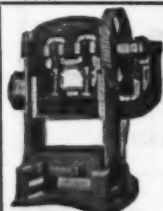
**on Littell's Dial Feeds**

For curling shells or assembling several parts a dial feed is well adapted. Send samples of your work to F. J. LITTELL MACHINE CO.  
4127 Ravenswood Ave., Chicago, Ill.

**CLEVELAND POWER PRESSES**  
FOR PROFITABLE PRODUCTION

THERE'S A CLEVELAND FOR EVERY POWER PRESS REQUIREMENT

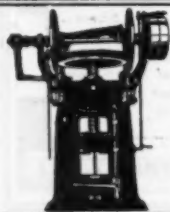
Cleveland Punch & Shear Works Co., Cleveland, Ohio



**Robinson Sheet Metal Working Machinery**

Inclinable Presses Gap Presses  
Double Crank Presses Squaring Shears  
Horning Presses Gap Shears  
Toggle Presses Corrugating Machines  
Hand and Power Brakes

NEW ALBANY MACHINE MFG. CO.  
Sole Owners J. M. Robinson Mfg. Co.  
NEW ALBANY, IND.



**Patent Percussion Power Presses**

The Presses for hot pressed brass parts. Excellent for cold pressing, coining, etc. Also all other types of Power Presses. Up-to-the-minute construction. Fully safeguarded. Automatic feeds.

Zeh & Hahnemann Co., Newark, N. J.

**MINSTER POWER PRESSES**

Inclinable, Horning, Straight Side, Punching, Gap, Knuckle Joint and Screw Presses

THE MINSTER MACHINE CO.

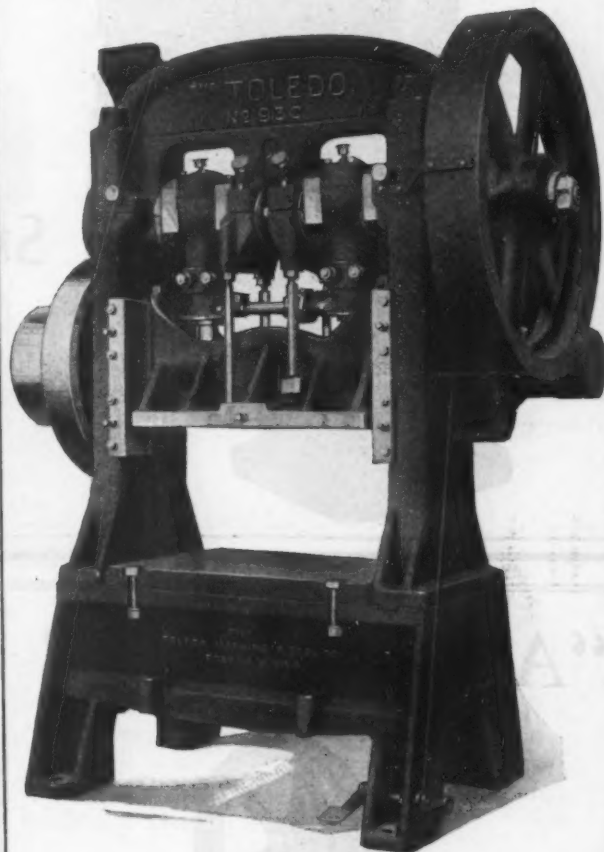
Minster, Ohio, U. S. A.

**V & O POWER PRESSES**  
AUTOMATIC FEEDS

AUTOMATIC THREADING MACHINES  
THE V & O PRESS CO., HUDSON, N. Y.

THE  
**Toledo**

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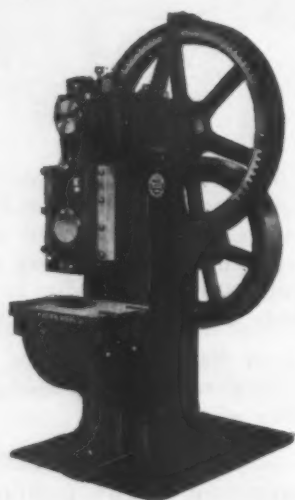
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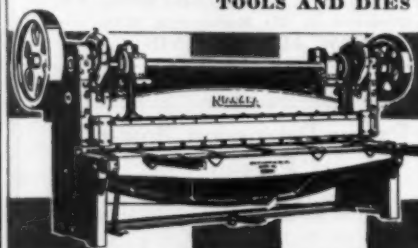
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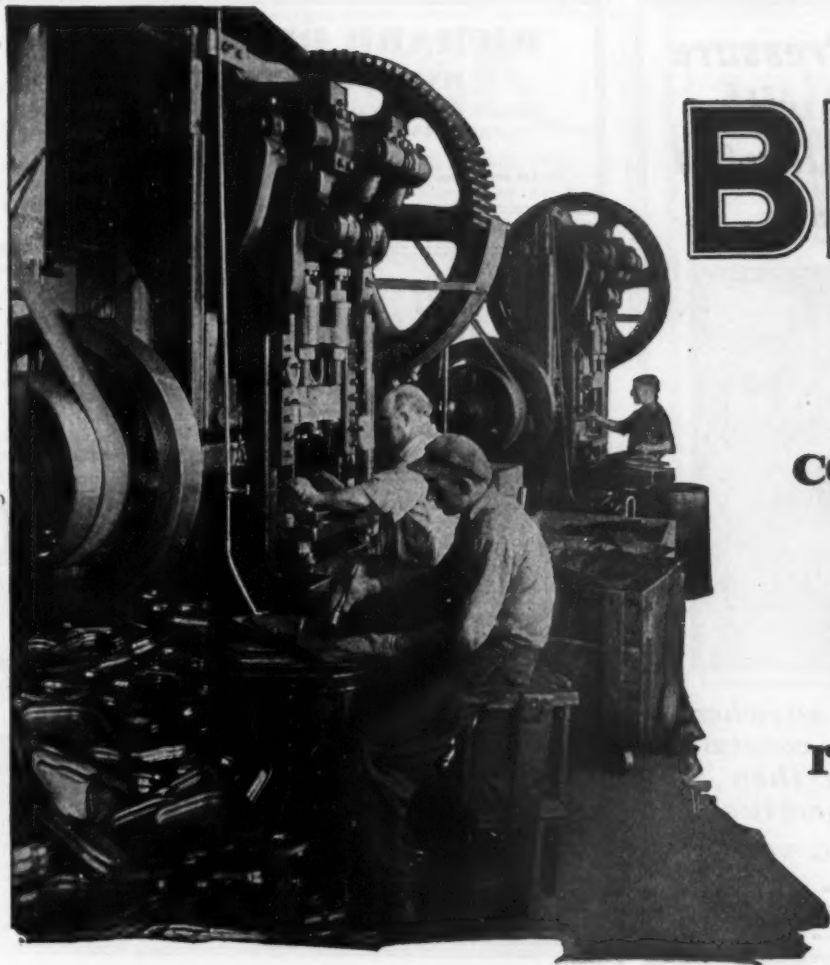
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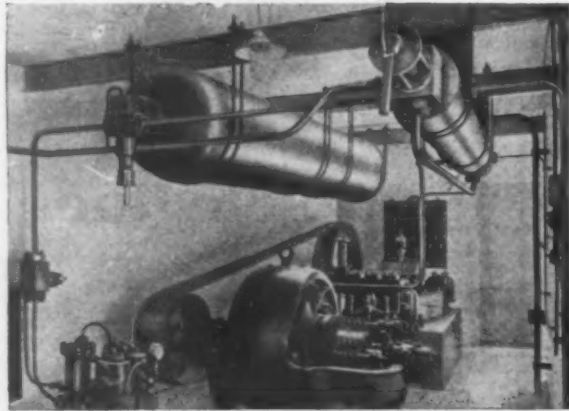
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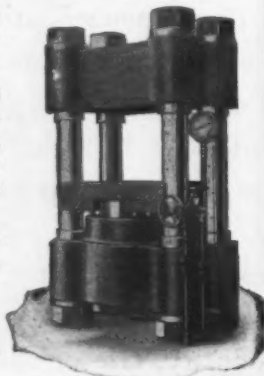
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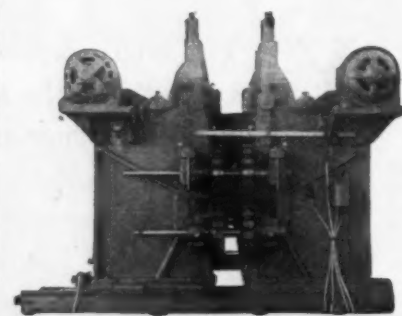
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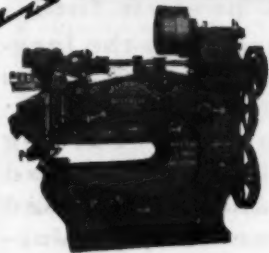


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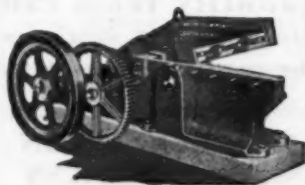
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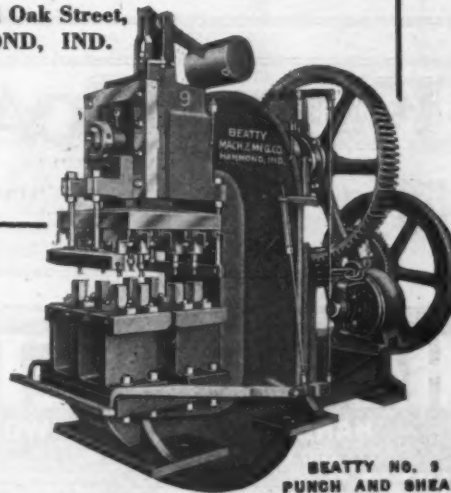
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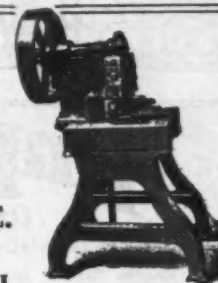
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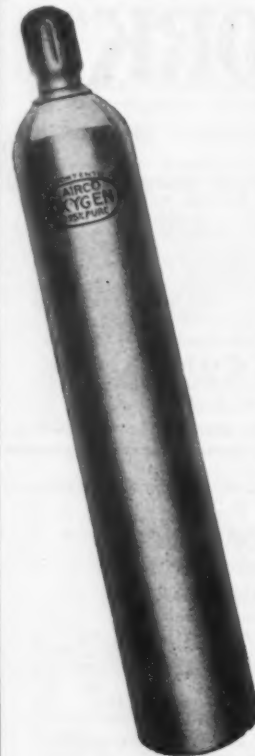
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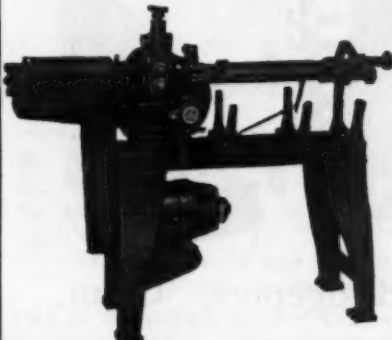
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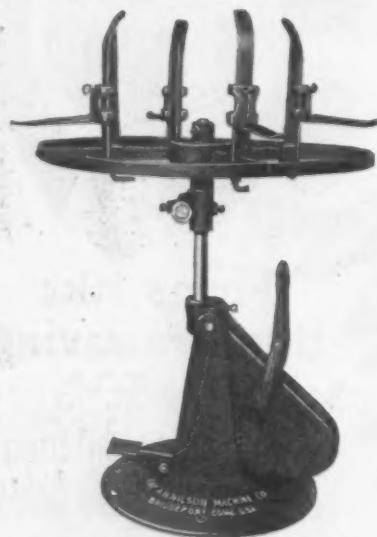


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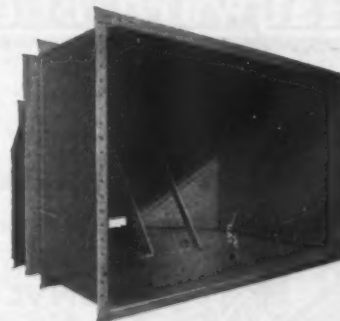
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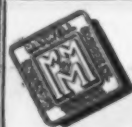
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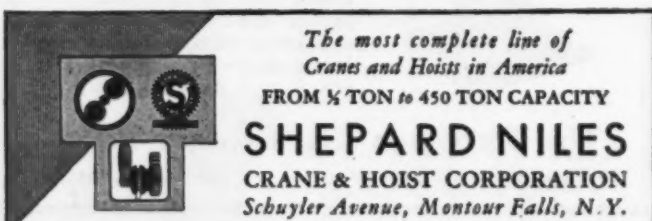


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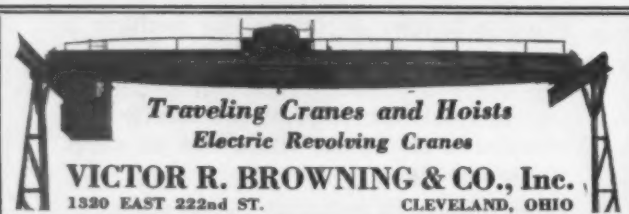


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 Maris Hand Cranes are famous for their dependability and easy operation. Ask us for details.  
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 Overhead CRANES and HOISTS our SPECIALTY for many years. Prompt service. Quick shipment. See page 130


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*are long lived*  
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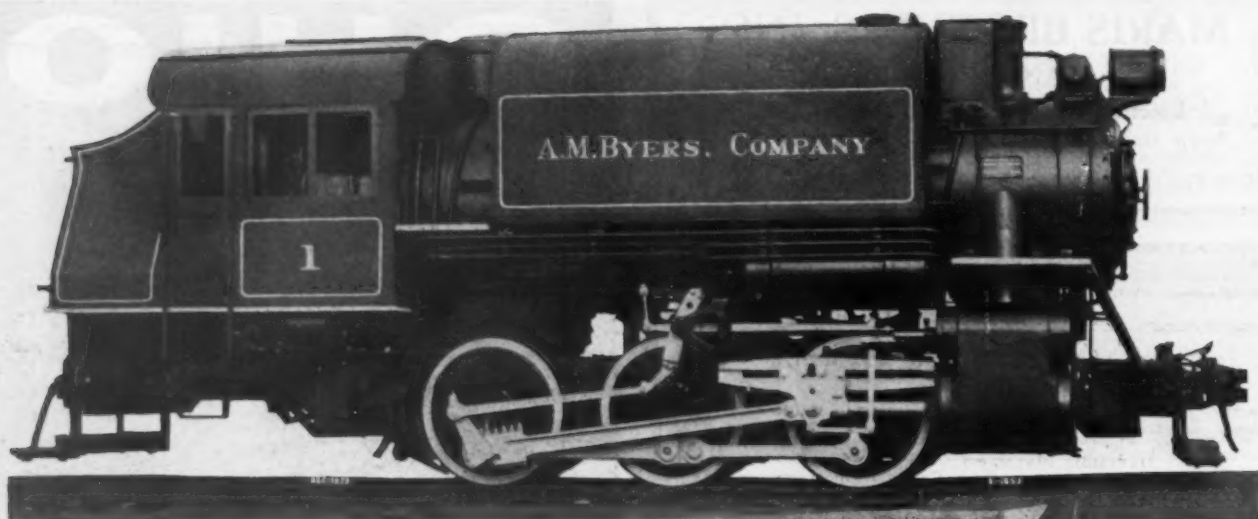
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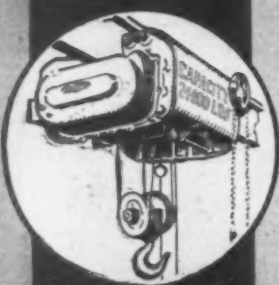
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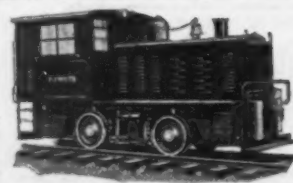


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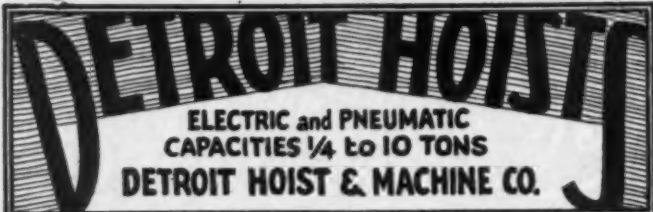
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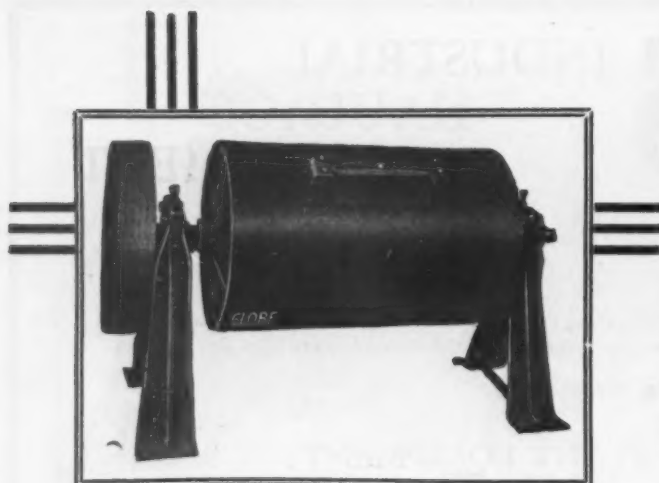
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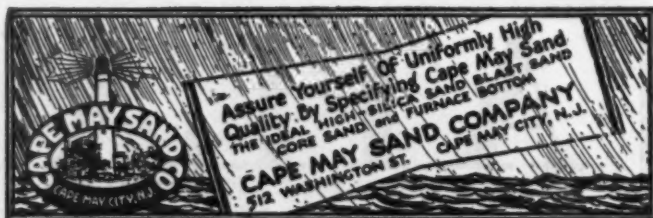
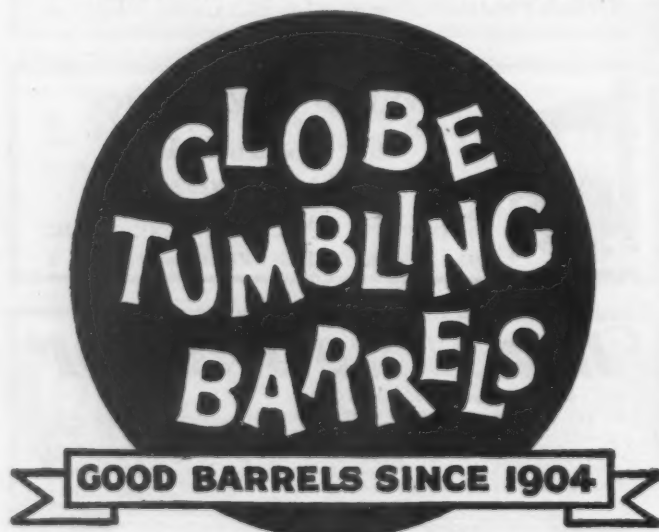
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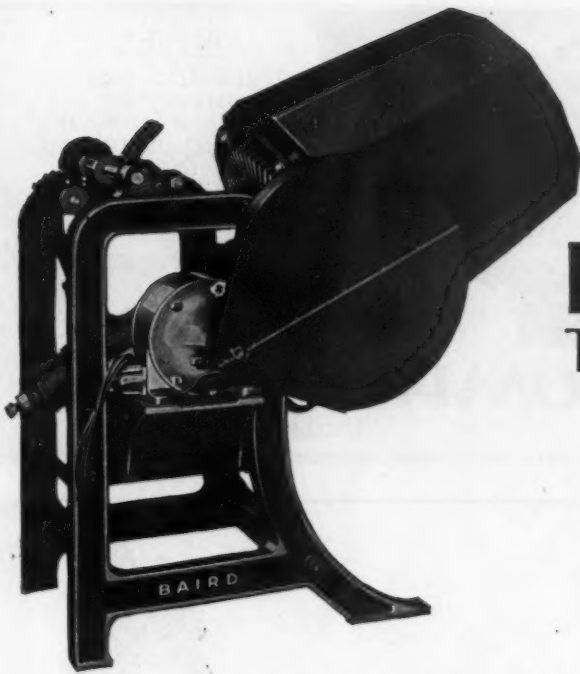
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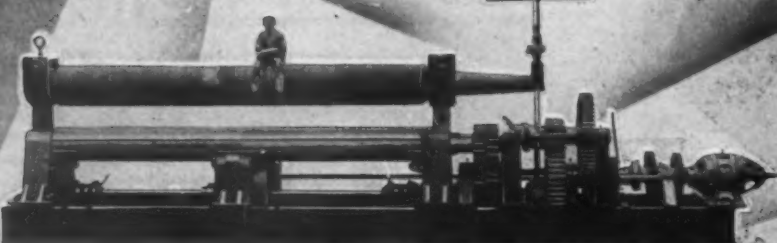
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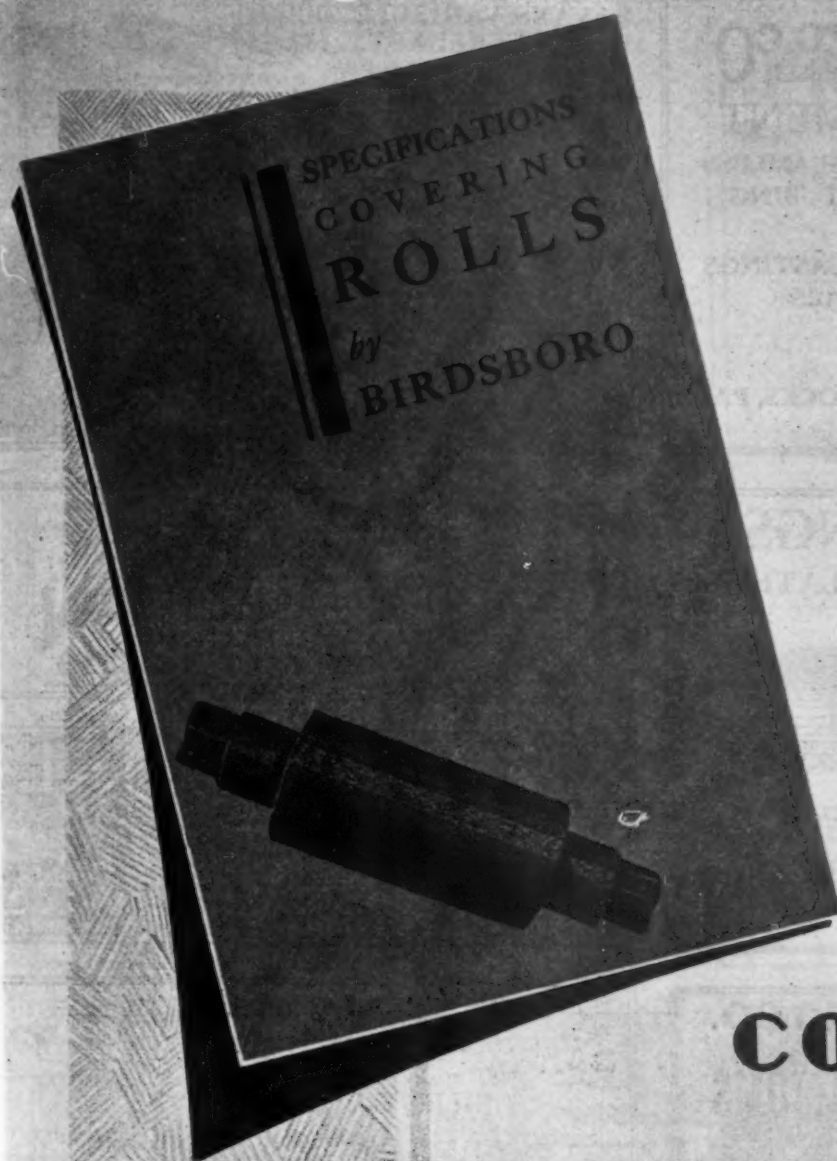
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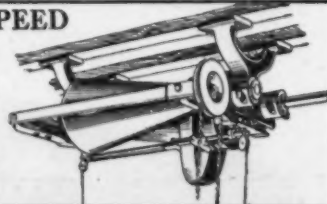
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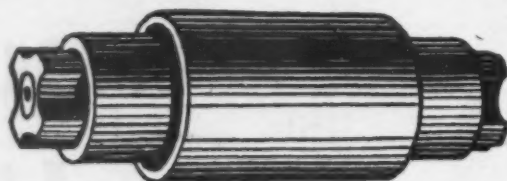
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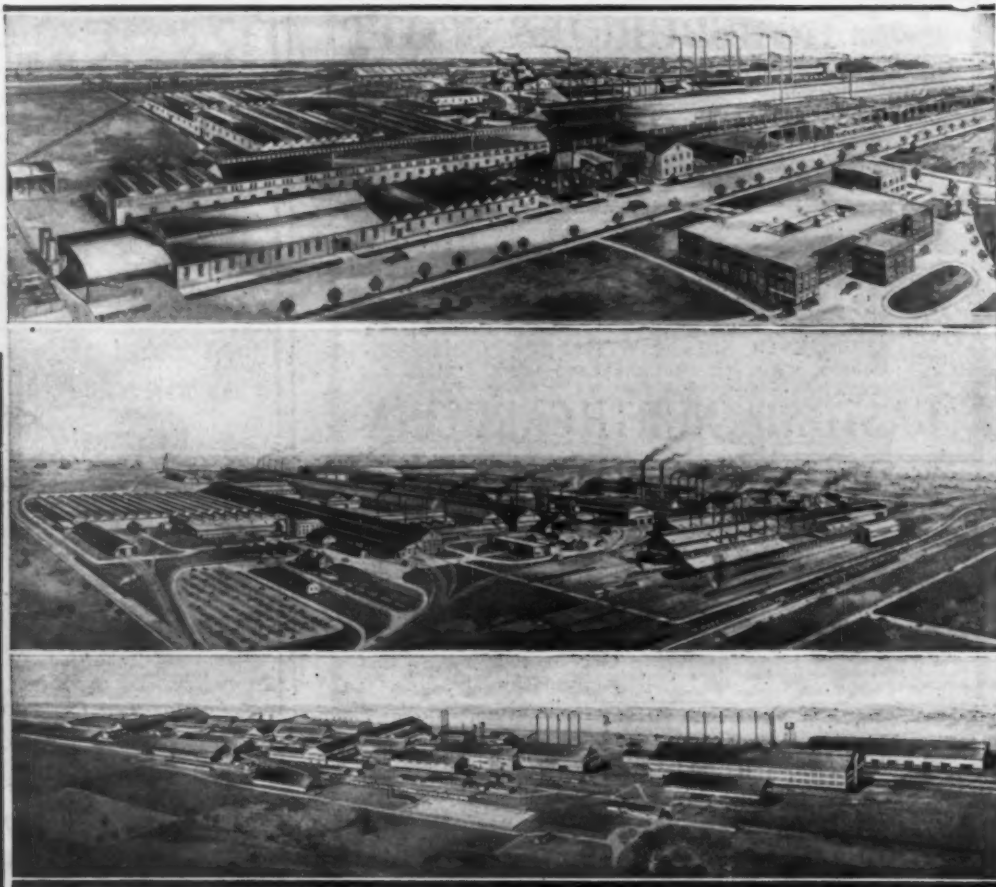
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We can meet any special requirements relative to the material to be pickled, the solution employed, temperatures, etc.

Consult us regarding your pickling problems.

## THREE GREAT PLANTS REDUCED UPKEEP WITH HAUSER-STANDER TANKS



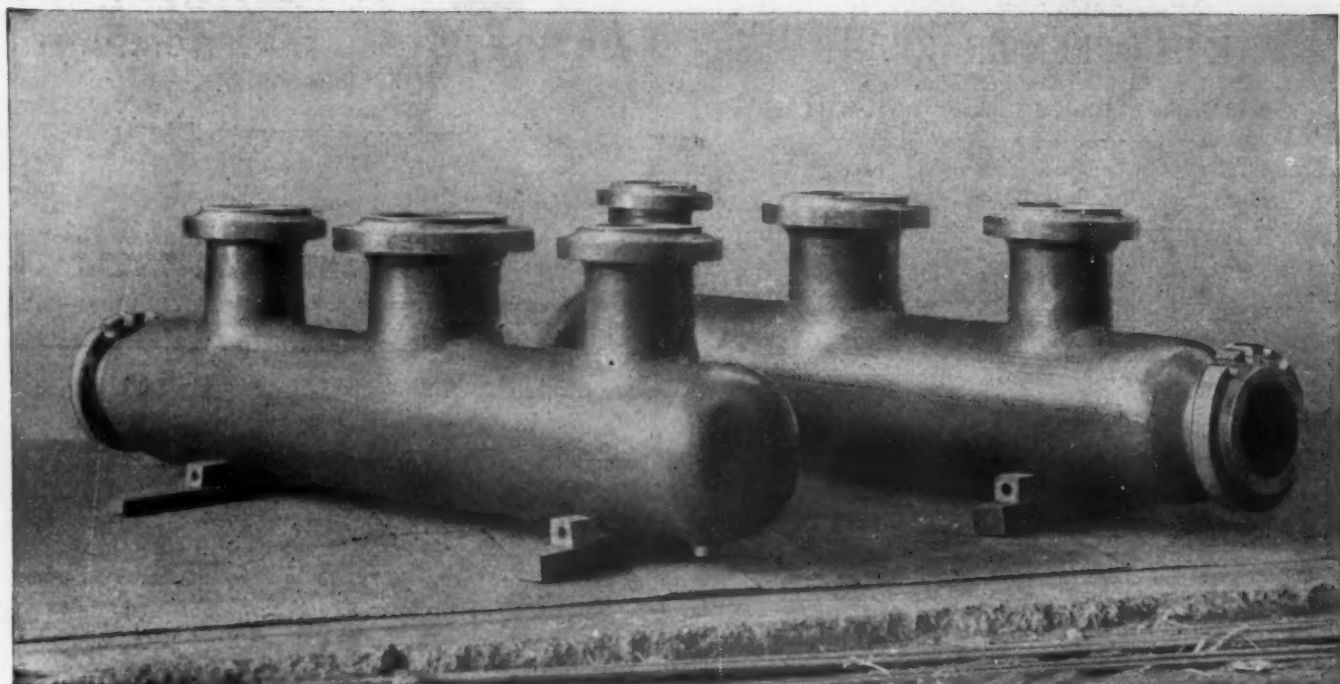
The American Rolling Mill Co., apparently, are sold on Hauser-Stander Tanks. And they're very practical people, too. They know what to expect in Pickling Tanks and where they can find it. Their great plants: Central Works at Middletown, Ohio (Top), East Works at Middletown, Ohio (Center), and Ashland Works at Ashland, Ky. (Bottom), are all equipped with Hauser-Stander Tanks.

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*"We Win With Quality"*

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Two Kellogg Forge and Hammer Lap Welded Steam Headers for 450 lbs. working pressure and total temperature of 750° F. Tested at 1000 lbs. before delivery to The Stone & Webster Engineering Co. for installation at the El Paso Electric Co., El Paso, Texas.

## Kellogg Steam Headers

*—forge and hammer lap welded  
for unfailing performance*

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The two Kellogg headers illustrated were furnished Stone & Webster Engineering Co., for installation at the El Paso Electric Company. These forge and hammer lap welded headers are

made from 16—17 $\frac{1}{32}$  inch I. D. by  $\frac{3}{8}$  inch thick seamless steel tubing. The heads are  $\frac{7}{8}$  inch thick, and the ends are swedged to 10 inches, with welded flanges. Fitted with forge welded outlets faced to 400 lbs. Sarlun standards—of specified dimensions, these headers provide the distinct advantages of this recognized type of construction.

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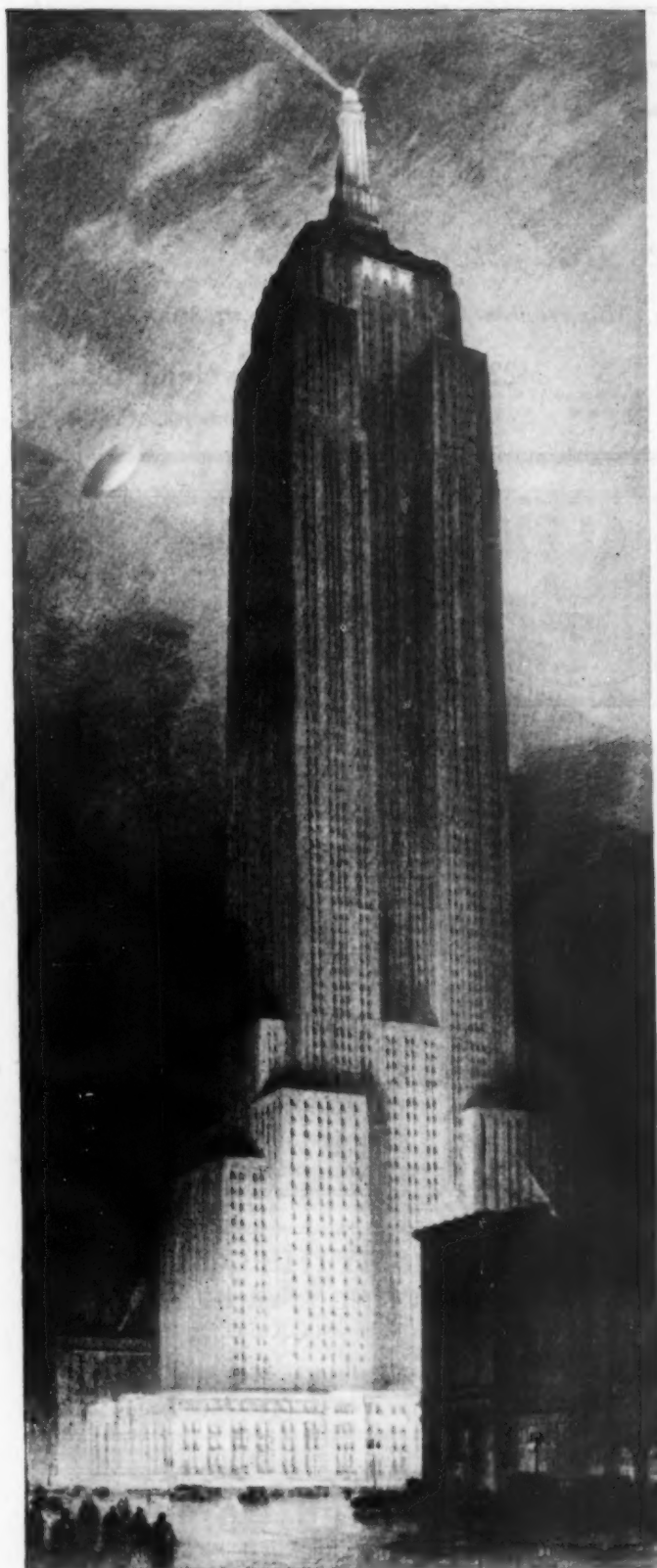
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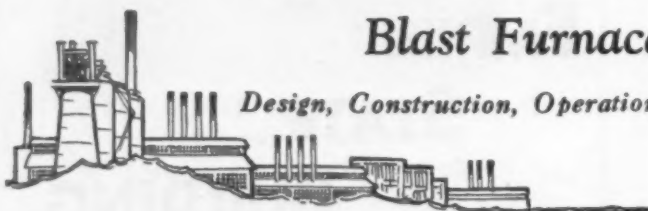
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Direct or Cupola Metal—All Shapes and Sizes

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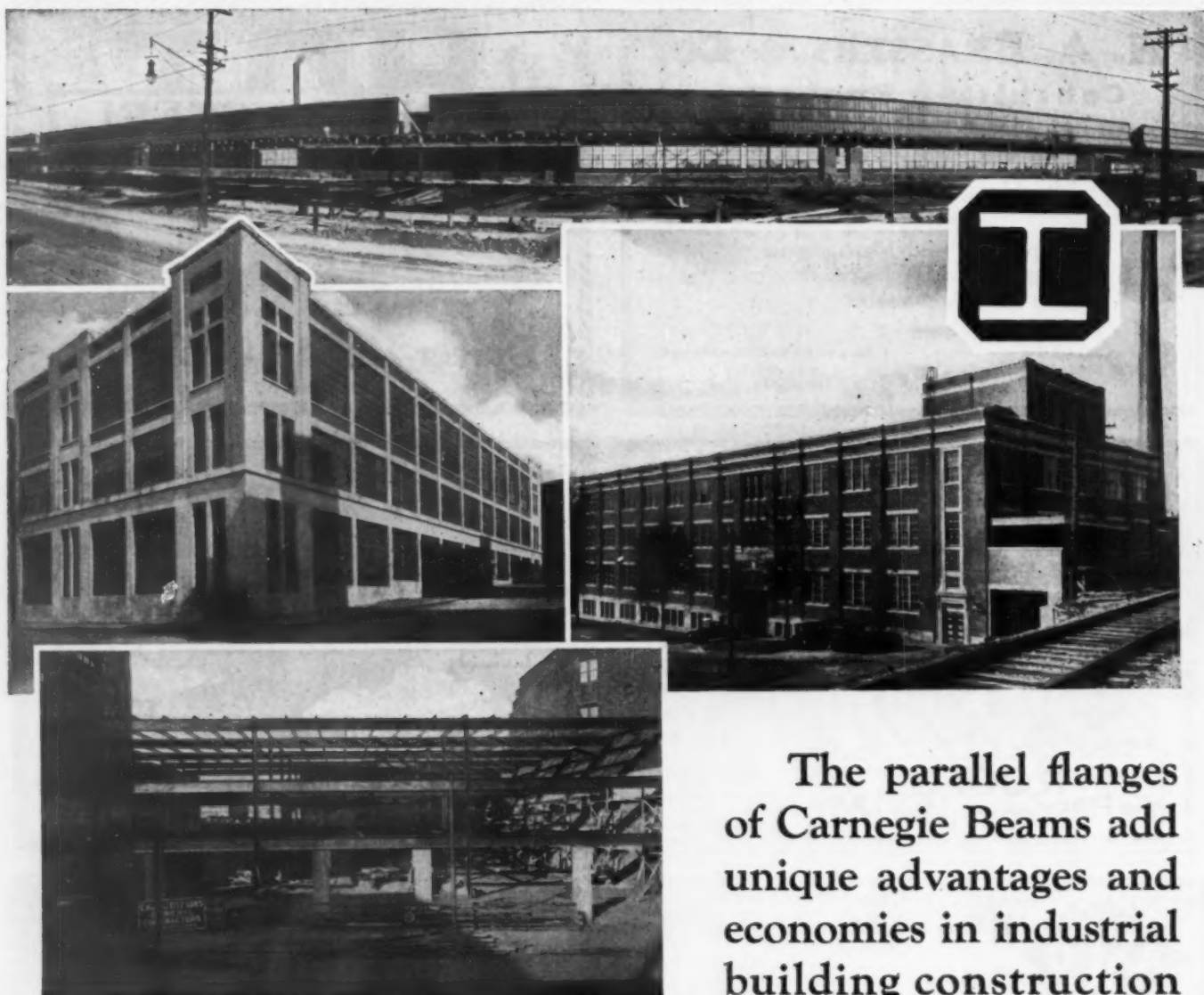
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**C**ARNEGIE BEAM SECTIONS are particularly adaptable to the construction of industrial buildings. Pictured above are several types of the many industrial buildings throughout the country in which these beams have been used with great economy and satisfaction.

A unique feature of Carnegie Beams is their parallel flanges. The elimination of internal flange slope provides eight non-sloping surfaces for connections instead of four, simplifying very markedly the great variety of connections usually required, such as special columns for cranes, crane girders, rail clamps, monorail tracks, brackets of all descrip-

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Neatness of construction and simplicity of detail characterize jobs fabricated of Carnegie Beams. These sections merit the investigation of those interested in efficient and economical construction of industrial buildings.

CARNEGIE STEEL COMPANY ❖ PITTSBURGH, PA.

*Subsidiary of United States Steel Corporation*

53

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This is Number Six of a Series of Advertisements

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BAR INDUSTRY LETS YOUR PRO-  
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MAXIMUM MACHINE CAPACITY**

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**THE COLD FINISHED  
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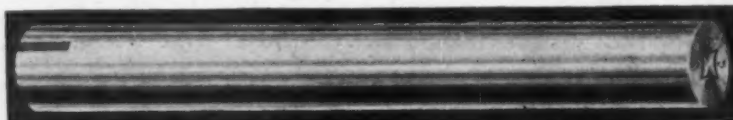
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Made for your particular requirements. We maintain, at  
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FOR YOUR MOST  
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## Cold Rolled Strip

# STEEL


**Desired Quality for Forming and Drawing**

Uniform quality in widths from 1/2" to 19"; and gauges from  
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### STAMPING AND DEEP DRAWING UNIFORM IN QUALITY

Control of the Quality begins with the manu-  
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OFFICES: Detroit—Chicago—St. Louis—Kansas City



## Hot and Cold Rolled Strip Steel

For All Purposes 3/4 to 24 Inches Wide  
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**SAVE WITH STEEL**



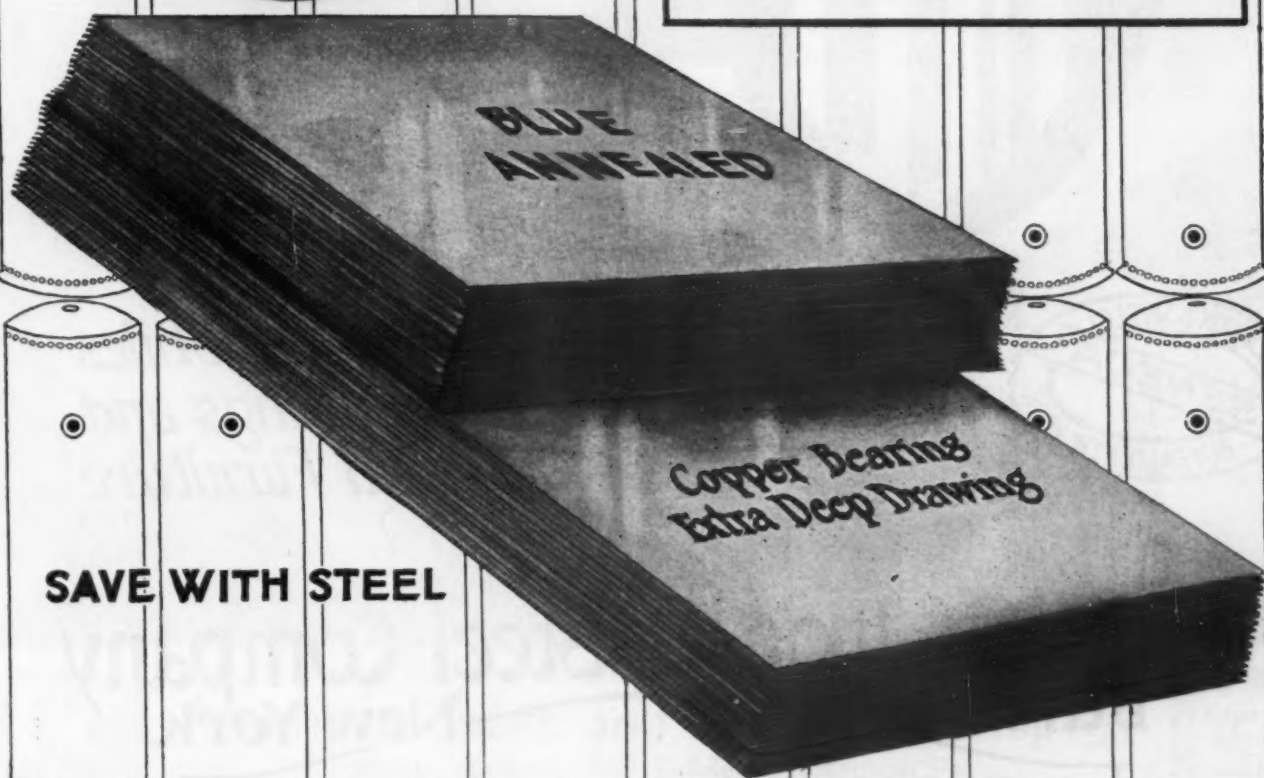
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SHARON SHEETS give a strong tight solidly closed weld that means a safe leak proof boiler.

Products welded from SHARON Steel give lasting and trouble free service.

SHARON PRODUCTS enjoy a rare mark of approval among the leading manufacturers of welded products.



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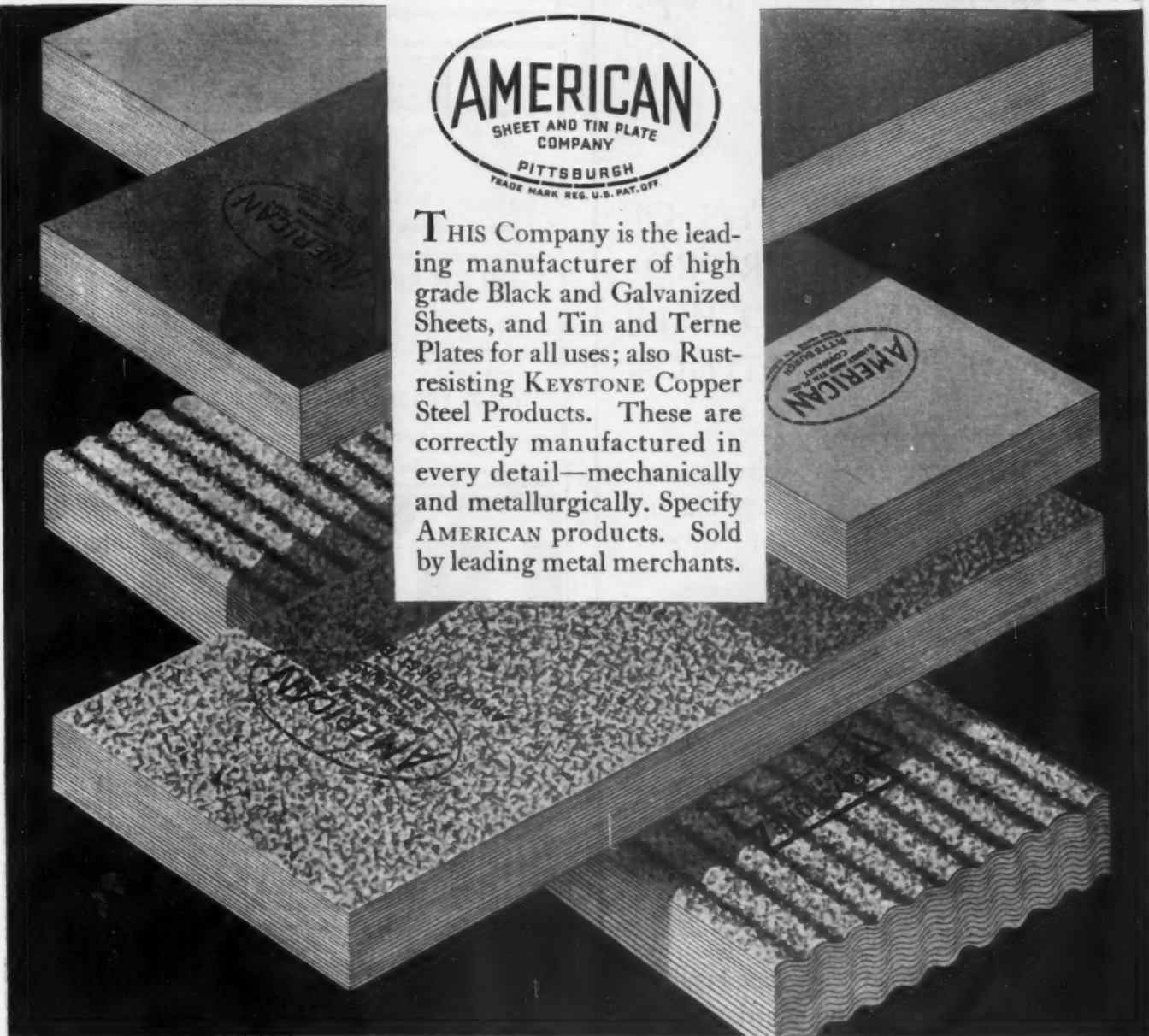


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BLUE ANNEALED — BLACK — GALVANIZED — AND SPECIAL SHEETS



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## HERE IS A NEW TYPE OF PIPE AND TUBULAR PRO- DUCTS SERVICE TO HELP YOU MEET COMPETITION

It is based on twenty years of engineering experience with manufacturers and industrial firms who use every conceivable type of tubing for every conceivable purpose.

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It fits your needs to the right source of supply at the right price. We do not favor any particular producer to your detriment or expense. You may be certain that your inquiries will be treated with strict confidence and that the reply will be most interesting.

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ALSO MANUFACTURERS OF  
Rust Resisting Metals highly resistant to  
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Up to sixteen inch widths in light gauges

THE COLD METAL PROCESS COMPANY  
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One-Fifth  
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Weight of  
Cast Iron  
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One-Third  
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AN ABSOLUTELY TIGHT DURABLE PIPE  
The lap riveted seam repeats its cycle every twelve inches, forming a broad stiffening rib of great value, and makes Root Pipe one-third stronger than any other type of pipe construction. Light weight and simple connections reduce transportation, handling and erection costs. Suitable for conveying water, air, gas, exhaust steam and powdered coal.  
ABENDROTH & ROOT MANUFACTURING COMPANY  
Pipe Specialists Continuously Since 1867. Sales Office: Woolworth Bldg., N. Y.

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SEAMLESS FORGED STEEL BOILER NOZZLES

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Our complete line enables us to supply boiler tubes for every kind and type of service. A warehouse stock in your vicinity will assure immediate delivery.

Boiler Tubes made of

COPR-LOY  
ARMCO INGOT IRON  
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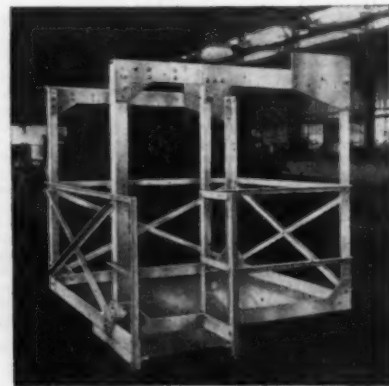
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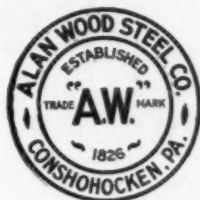
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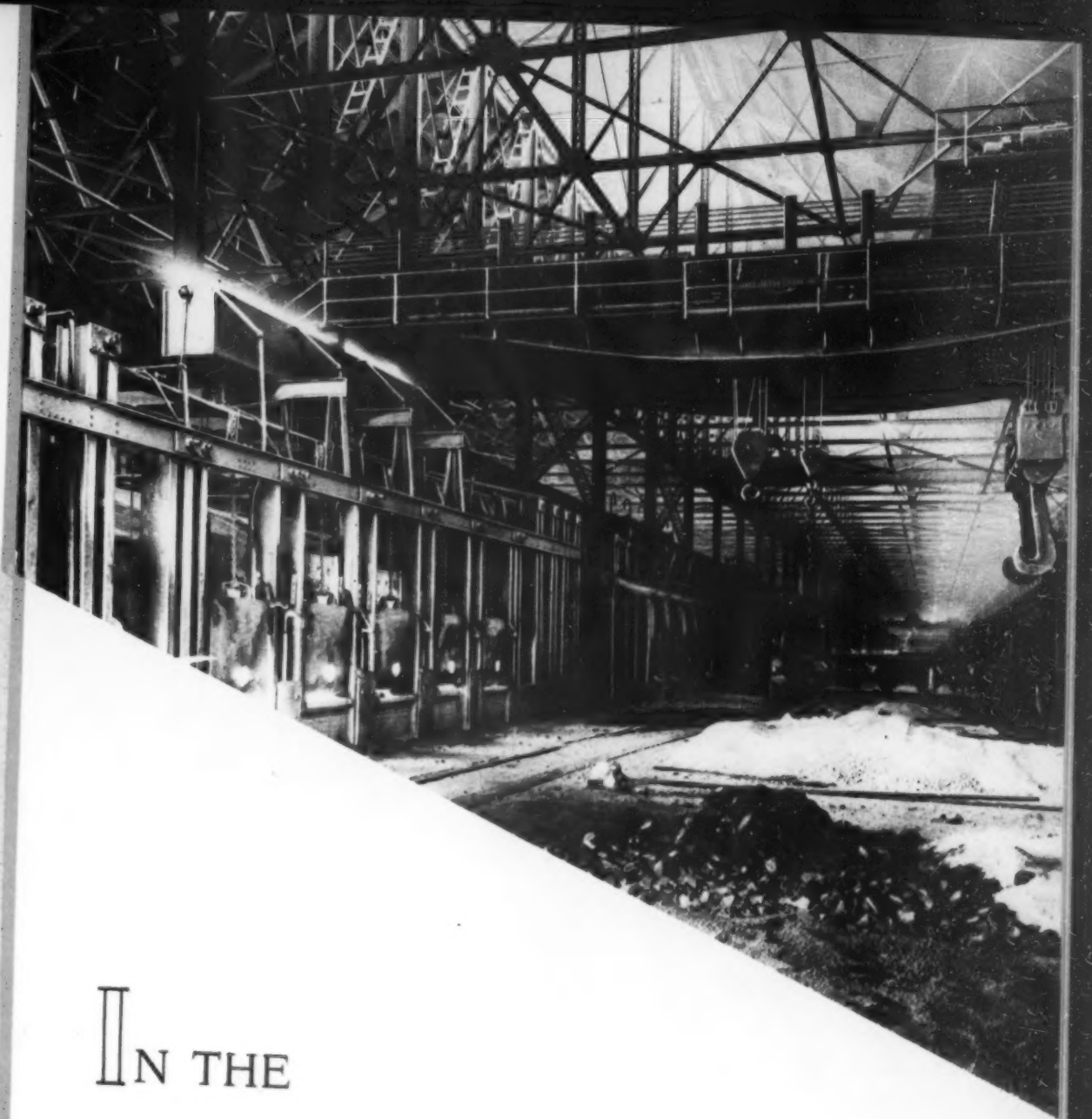
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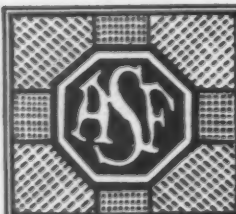
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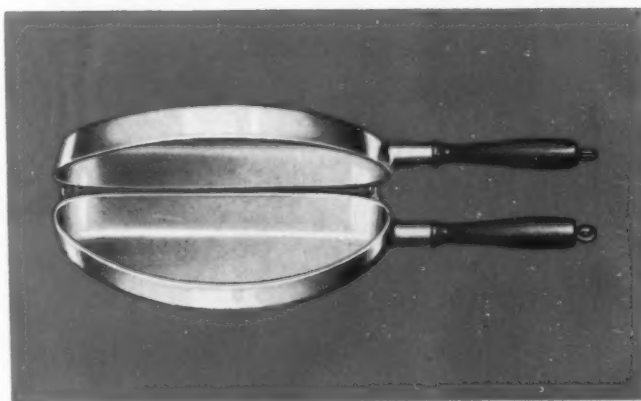
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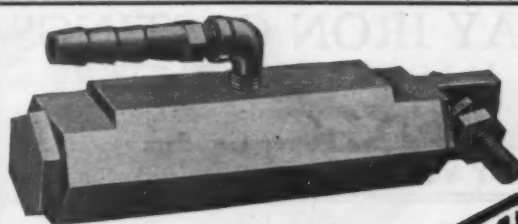
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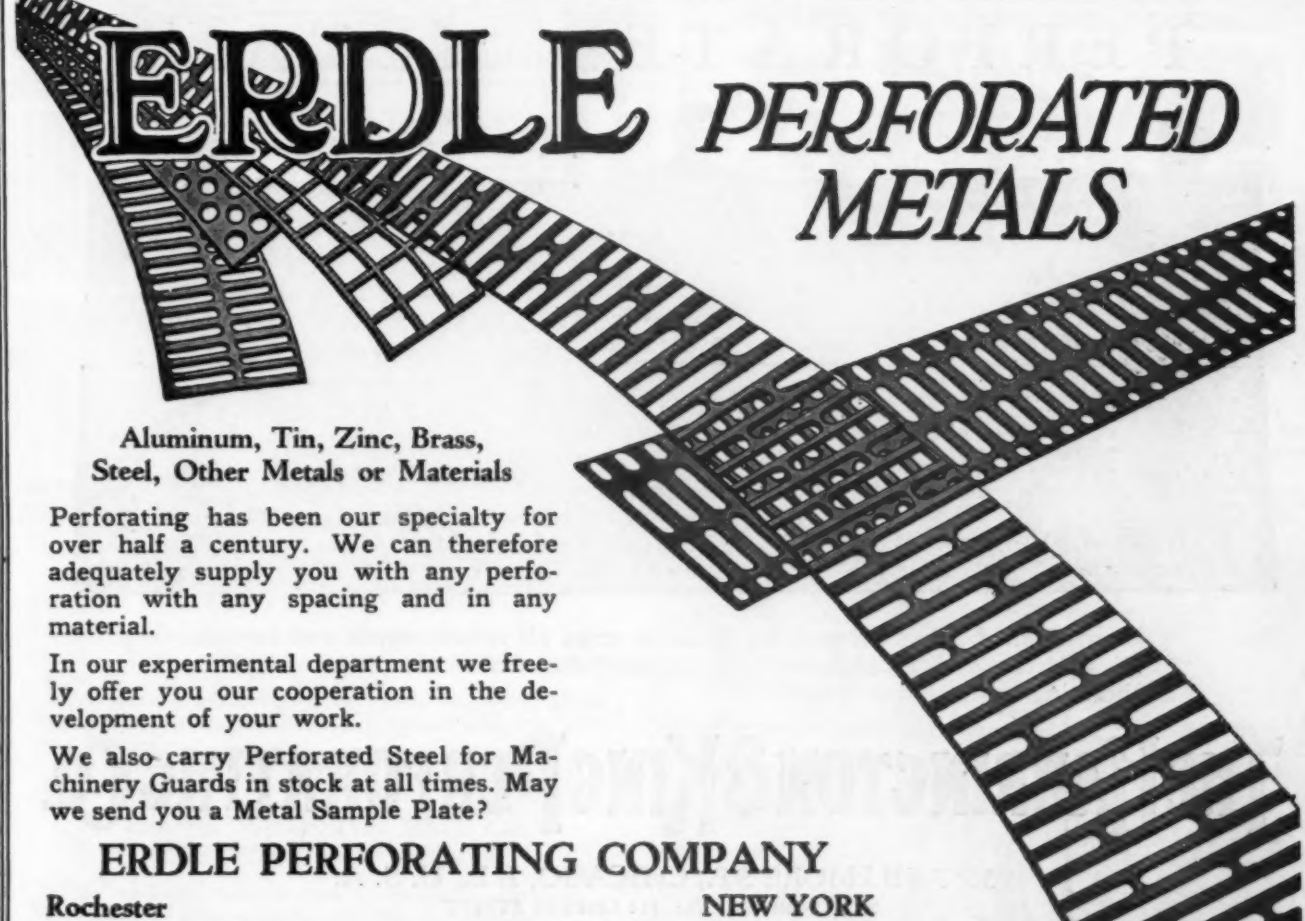
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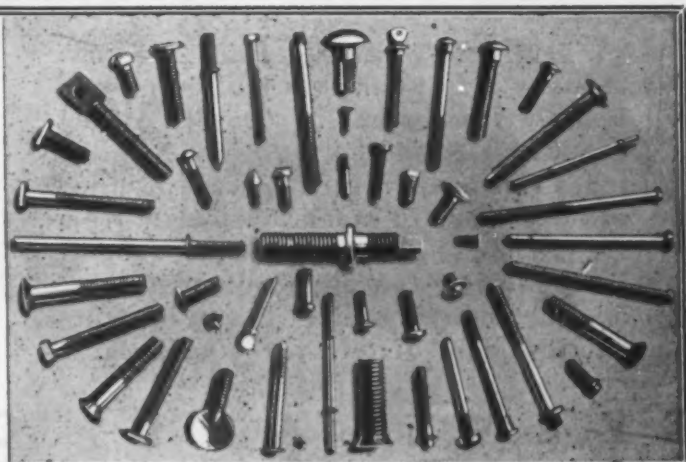
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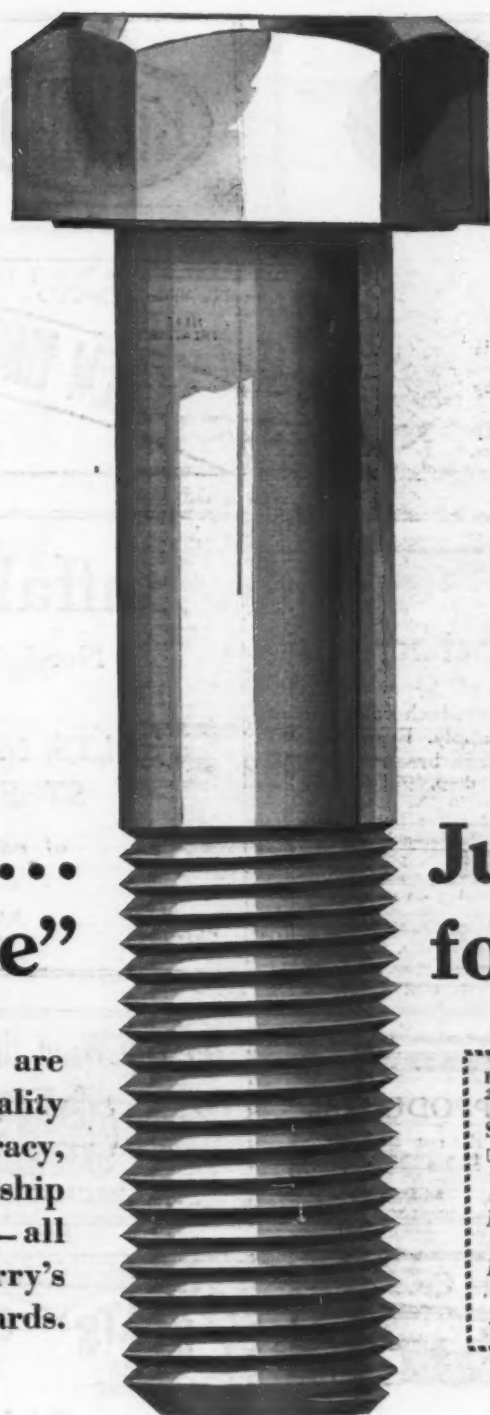
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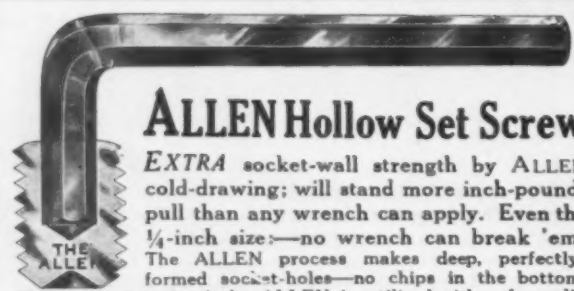
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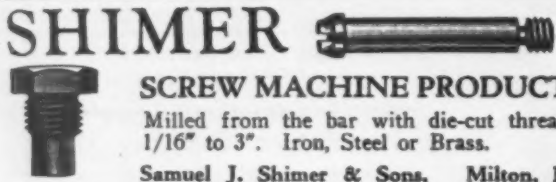
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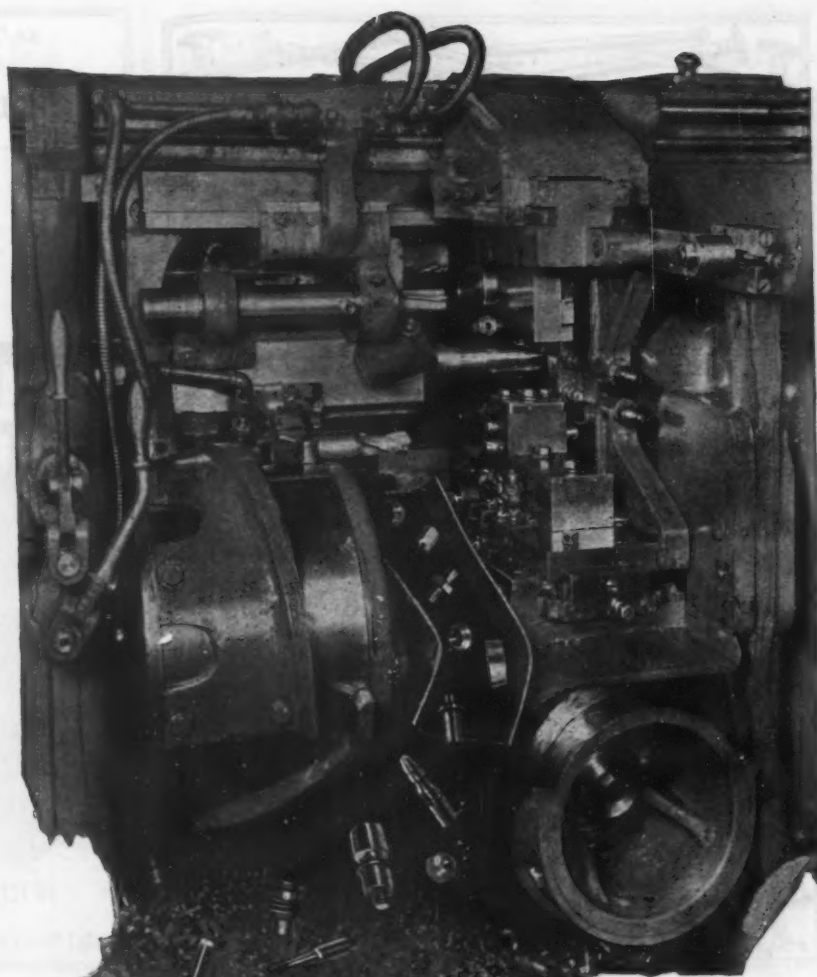
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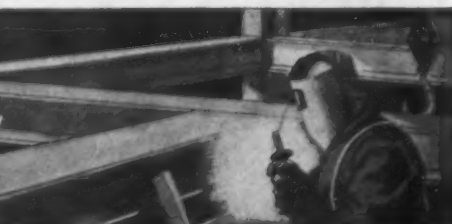


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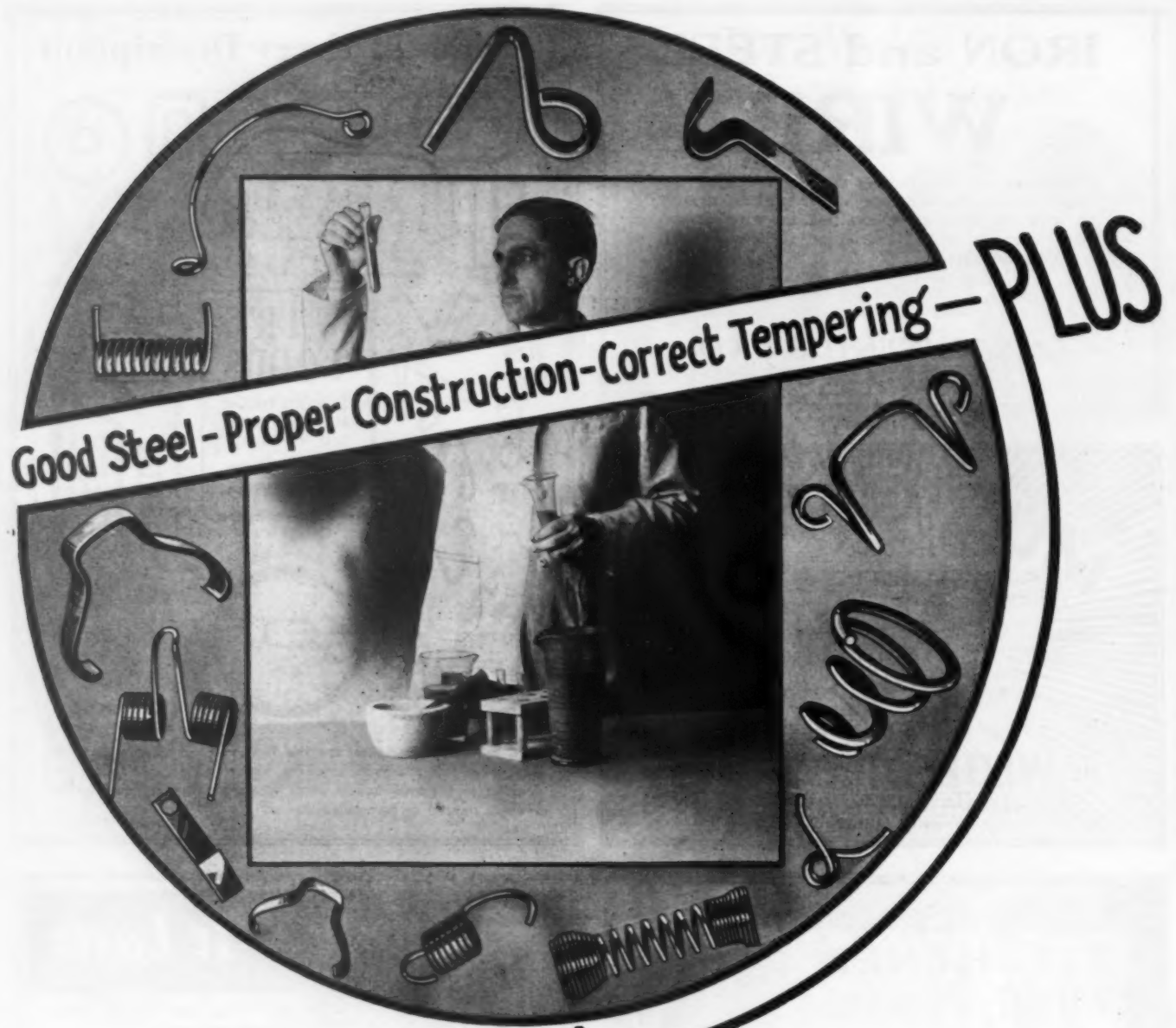
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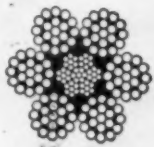
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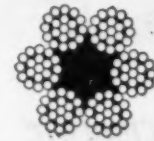
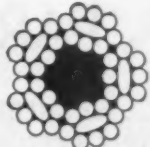
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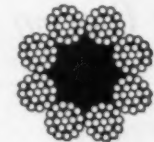
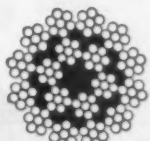
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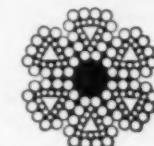
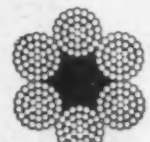
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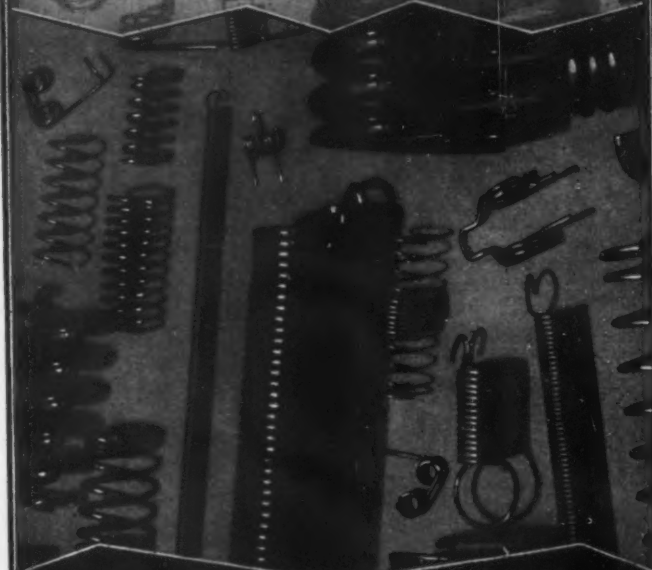
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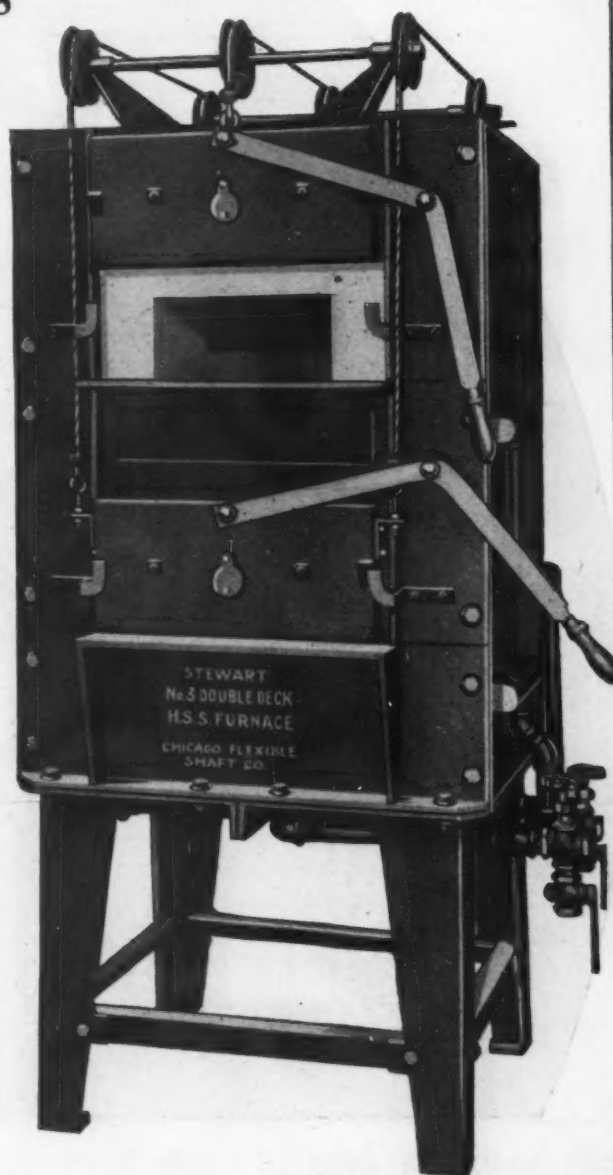
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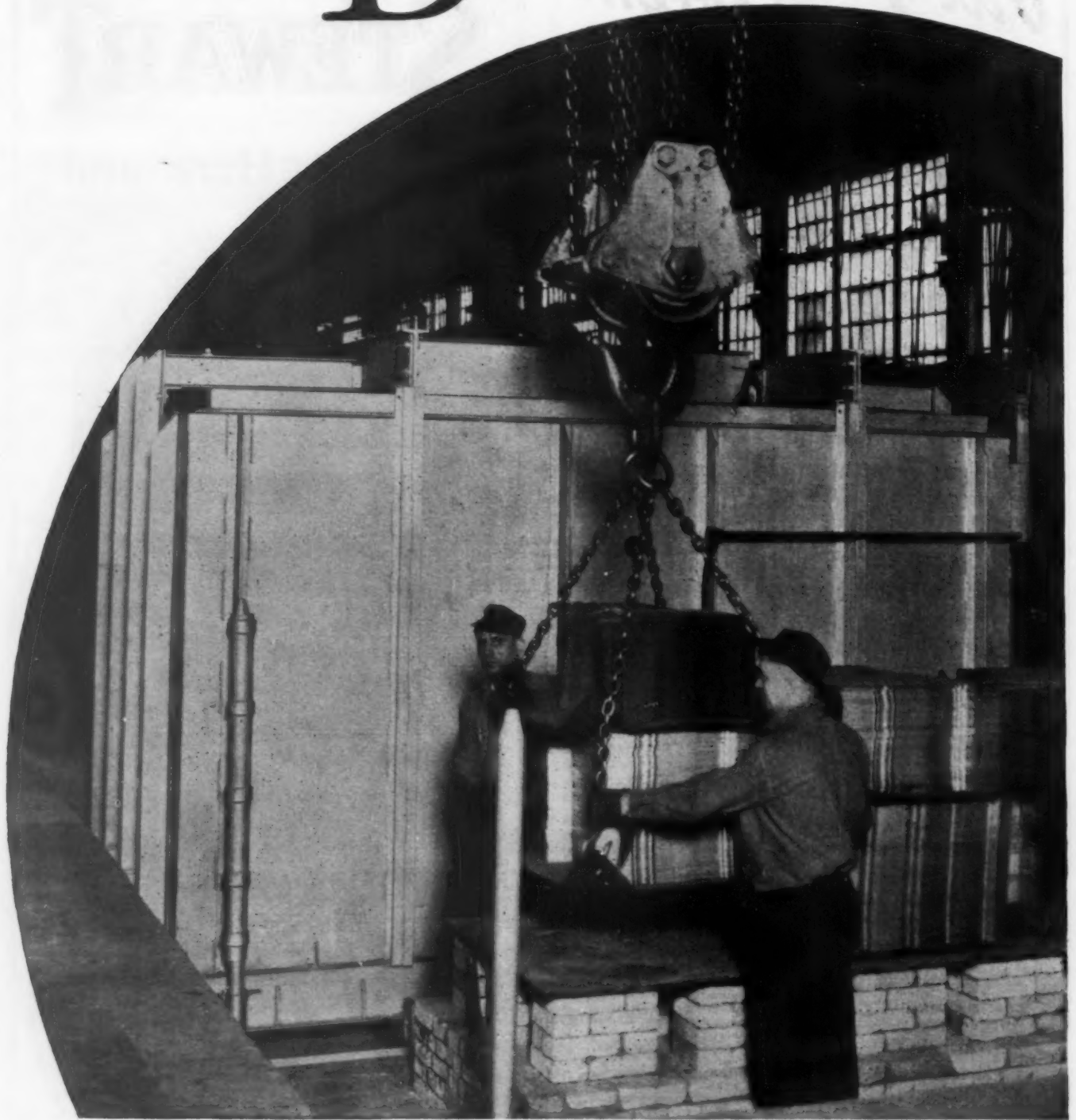
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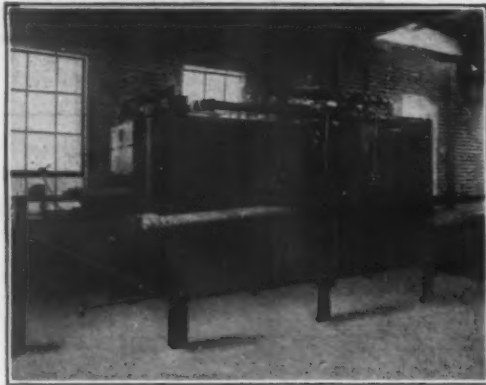
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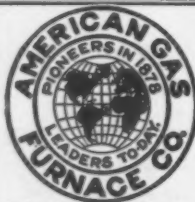
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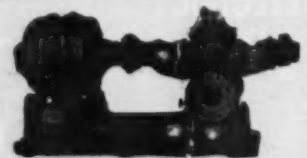
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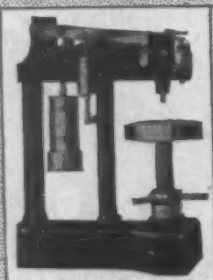


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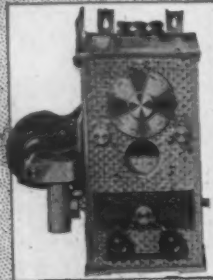


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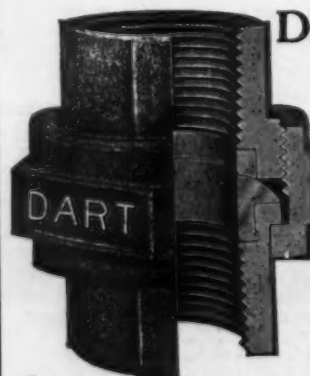
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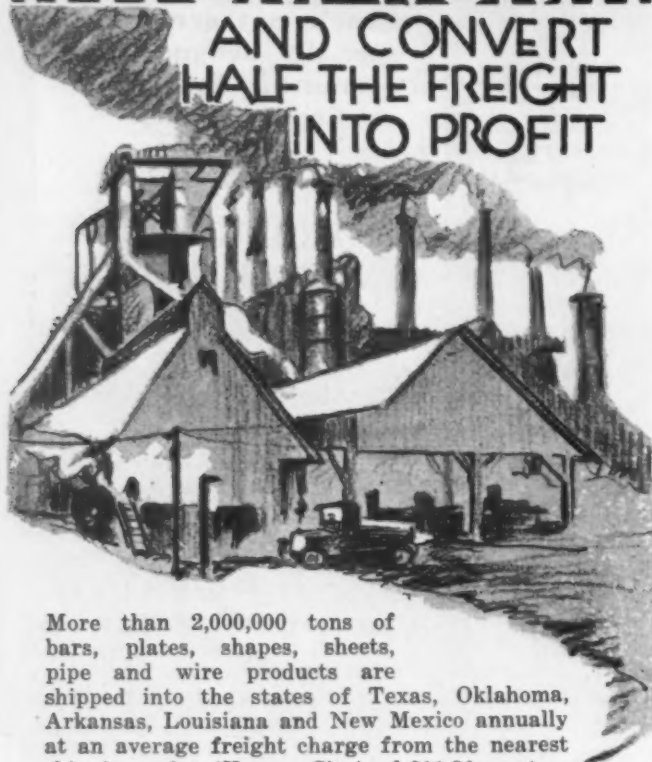


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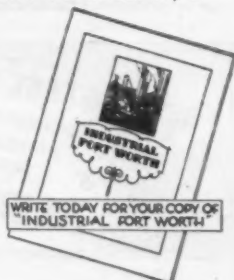
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See pages preceding Products Index.

**THE CLASSIFIED SECTIONS  
of THE IRON AGE**

# SIMMONS "RESTORED" MACHINES

A few selections from our stock of 2,000 guaranteed "Restored" machines

## MILLERS

- 2-No. 6 Whitney Hand
- 1-No. 1 Pratt-Whitney Hand
- 1-No. 3 Garvin Hand
- 1-No. 2 Pratt-Whitney Column
- 1-No. 2 Garvin Duplex
- 1-No. 3 Garvin Duplex
- 1-No. 2 Cincinnati Duplex
- 1-No. 3 Pratt-Whitney Duplex
- 1-No. 7-H Becker-Lincoln Type
- 1-No. 3 Lees-Bradner Thread
- 1-1/2"x12 Pratt-Whitney Thread
- 1-1/2"x12 Pratt-Whitney Automatic
- 1-18" Cincinnati Automatic
- 1-24" Cincinnati Automatic
- 1-48" Cincinnati Automatic
- 1-24"x24"x12" Ingersoll Adj. Rail
- 1-28x28x10" Ingersoll
- 1-32x28x16" Ingersoll
- 1-40x22x10" Ingersoll
- 1-48x36x14" Ingersoll Adj. Rail
- 1-56x40x12" Newton Horizontal
- 1-56x20x12" Ingersoll Slab
- 2-68x25x15" Ingersoll Planer Type
- 1-72x72x24" N.B.-Pond Slab
- 1-No. 1 Bement-Smith Keyseater
- 1-No. 1-B Fox Plain
- 1-No. 1 Oesterlein Plain
- 1-No. 1-A Milwaukee Plain
- 1-No. 1 1/2-A Milwaukee Plain
- 1-No. 1 1/2 Brown-Sharp Plain
- 1-No. 2 C LeBlond Plain
- 2-No. 2 Kemp Smith Plain
- 1-No. 3-A Ohio Plain
- 1-No. 3-B Milwaukee Plain
- 1-No. 3 LeBlond Plain
- 1-No. 3 Kemp Smith Plain
- 1-No. 3 Cincinnati Plain
- 1-No. 4 Cincinnati Hi-Power
- 1-No. 5 Cincinnati Hi-Power
- 1-No. 2 Kemp Smith Universal
- 1-No. 3 Cincinnati Univ.
- 1-No. 3 Hendey Universal
- 1-No. 3 Cincinnati Hi-Power Vert.
- 2-No. 4 Cincinnati Hi-Power Vert.
- 1-Model S-D Becker Continuous
- 1-Model C-S Becker Continuous
- 1-No. 5 Becker Vertical
- 1-No. 5-B and S. Vertical
- 1-No. 2 Knight Milling and Drilling

## LATHES

- 1-8x60 Le-Swing
- 1-12"x5" Sidney
- 1-12"x8" Pratt-Whitney
- 1-14"x8" Hendey Tool Room
- 1-14"x8" Menarch
- 1-14"x10" Pratt-Whitney

- 1-16"x8" Menarch
- 1-16"x8" American
- 1-16"x8" Springfield Tool Room
- 2-16"x8" LeBlond
- 1-16"x8" Menarch
- 2-17"x8" LeBlond
- 1-17"x10" LeBlond
- 1-18"x8" LeBlond
- 1-18"x8" Lodge-Shiley
- 2-18"x10" Lodge-Shiley Geared Hd.
- 1-18"x12" Lodge-Shiley
- 1-20"x10" Bradford
- 1-20"x12" LeBlond
- 1-20"x12" Fay-Scott Gap
- 1-20"x10" LeBlond
- 1-24"x10" LeBlond
- 1-24"x12" Prentiss
- 1-24"x16" American Geared Hd.
- 1-25"x10" LeBlond
- 1-25"x10" Harrington Gap
- 2-26"x12" N.B.-Pond
- 2-30"x10" American Geared Head
- 4-30"x12" American Geared Head
- 1-30"x20" American Geared Head
- 2-30"x22" American M.D.
- 1-36"x14" Putnam Gd. Hd.
- 1-38"x14" Bridgeford Motor Drive
- 1-42" N.B.-Pond Double End Wheel
- 1-42"x18" N.B.-Pond M.D.
- 1-42"x24" N.B.-Pond
- 1-42"x28" N.B.-Pond Motor Drive
- 1-42"x30" Putnam Motor Drive
- 1-48"x14" Pond Motor Drive
- 1-48"x24" N.B.-Pond Motor Drive
- 1-50"x34" Pittsburgh
- 1-50"x36" Pittsburgh
- 1-60"x18" N.B.-Pond M.D.
- 1-60"x28" N.B.-Pond M.D.
- 1-60"x21" Pittsburgh
- 1-72"x38" N.B.-Pond
- 1-90" Putnam Wheel Lathes
- 1-110"x39" Mement Heavy Duty

## GRINDERS

- 1-No. 3 Barber-Colman Hob.
- 1-No. 2 Peerless Horizontal
- 1-No. 1 Besly Disc
- 1-No. 2 Besly Disc
- 1-No. 10B Besly Disc
- 1-No. 4 Gardner Disc
- 1-No. 2 Brown-Sharp Surface
- 1-No. 2 Rod Surface
- 1-No. 16 Blanchard Surface
- 1-No. 4 Springfield Planer Surface
- 1-No. 5 Diamond Surface

- 1-8" Heald Rotary
- 1-William Vertical Cylinder
- 1-No. 60 Heald Internal
- 1-No. 70 Heald Internal
- 1-43x30 Pratt-Whitney Cylinder
- 1-No. 10 Brown-Sharp Plain
- 1-6x20 Landis Plain
- 1-10"x30 Brown-Sharp Plain
- 1-10x72 Norton Plain
- 1-12x36 Cincinnati Universal
- 1-12x48 Modern Plain
- 1-12x48 Modern Universal
- 1-14x50 Norton Plain
- 1-14x72 Norton Plain
- 1-18x96 Norton Plain
- 1-18"x48 Landis Crank
- 1-No. 1 Fraser Universal
- 1-No. 3 Brown-Sharp Universal

## AUTOMATICS

- 1-No. 60 Brown-Sharp
- 1-No. 0 Brown-Sharp
- 1-No. 2 Brown-Sharp
- 1-No. 2 Brown-Sharp Cut-off
- 1-No. 2G Brown-Sharp
- 1-No. 6-A Potter-Johnston
- 2-No. 7-A Potter-Johnston
- 1-1/2" Davenport Mult. Spindle.
- 1-1/2" Cleveland Model A
- 1-1/2" 1-16" Cleveland Model A
- 1-1/2" Gridley four spindle
- 1-1/2" Gridley four spindle
- 2-1/2" Gridley four spindle
- 2-1/2" Gridley four spindle
- 1-2 1/4" Gridley four spindle
- 1-2 1/4" Gridley four spindle
- 7-2 1/4" Gridley single spindle
- 1-2 1/2" Cleveland
- 3-3 1/4" Gridley single spindle
- 1-5" Gridley single spindle
- 4-14" Fay Automatic Short Bed
- 2-14" Fay, Flanders Type

## GEAR CUTTERS

- 1-No. 6 Fellows Gear Shaper
- 1-No. 61 Fellows Gear Shaper
- 1-6" Gleason Bevel Generator
- 1-15" Gleason Bevel Generator
- 1-18" Gleason Bevel Generator
- 1-24" Gleason Gear Planer
- 1-48" Gleason Gear Planer
- 1-77" Gleason Gear Planer
- 1-No. 2-B Newark Spur & Bevel
- 1-No. 15 B & Sharp Spur & Bevel
- 1-1/2" B & Sharp Spur
- 1-36" G. and Eberhardt Spur

- 1-No. 5 B and Sharp 60" Spur
- 2-50" P-Whitney Spur
- 2-No. 3 Barber-Colman Hobber
- 1-No. 12 Barber-Colman Hobber
- 1-No. 12-H G and C Hobber
- 1-No. 5-A Lees-Bradner Hobber
- 1-No. 66-H G & Eberhardt Hobber
- 1-18" Gould-Eberhardt Rack Cutter

## SHAPERS AND SLOTTERS

- 1-14" Davis Shaper
- 1-15" Potter-Johnston Shaper
- 1-18" Stebbins Shaper
- 1-18" Milwaukee Shaper
- 1-20" G & Eberhardt Shaper
- 1-20" Hendey Shaper
- 1-20" Kelley Shaper
- 1-20" Cincinnati Shaper
- 1-24" Simmons Shaper
- 1-24" Rockford Shaper
- 1-24" Steptoe Shaper
- 1-32" G & Eberhardt Shaper
- 1-32" N.B.-Pond Traveling
- 1-10" N.B.-Pond Slat
- 1-15" Newton Slat
- 1-18" Dill Slat
- 1-18" Dill Slat
- 1-20" Dement Slat
- 1-22" Dement-Miles Slat

## BORING MILLS

- 1-16" Betts M. Drive
- 1-12" Niles Rapid Traverse
- 1-10-16" Niles Extension
- 1-7-10" Betts Extension
- 1-60" Cincinnati Motor Drive
- 1-108" N.B.-Pond Motor Drive
- 1-62" N.B.-Pond Rapid Traverse
- 2-48" Colburn Rapid Traverse
- 2-44" N.B.-Pond Rapid Traverse
- 1-44" Putnam Rapid Traverse
- 1-42" Bullard Rapid Traverse
- 1-37" Bridgeport Vertical
- 1-36" Bullard New Era
- 1-34" Colburn Turret Head
- 1-34" Bartram Turret Head
- 1-30" Bullard Turret Head
- 2-24" Bullard Rapid Prod.
- 1-No. 3 Universal Horiz. Precision
- 1-No. 0 Bement Horizontal
- 1-No. 9 Detrick-Harvey Floor Type
- 1-60" N.B.-Pond Horizontal
- 1-No. 3 Betts Horizontal
- 1-No. 3 Barrett Cylinder
- 1-7" Bar Newton Horizontal
- 1-7" Bar Espon-Lucas Horizontal
- 1-4 1/2" Bar N.B.-Pond Floor Type
- 1-No. 40 Landis Floor Type

# SIMMONS MACHINE TOOL CORPORATION

BUFFALO, 601 Morgan Bldg.

ALBANY, 1700 Troy Road

NEW YORK, 149 Broadway

# GUARANTEED MANUFACTURED (ORIGINATED BY US) MACHINE TOOLS PRICES LOW

## LATHES

- 1-66"x21" Putnam Trl. Grd.
- 1-54"x23" Pond M.D.
- 1-48"x50" Pond, 2 carriage.
- 1-45"x24" Pond, Trl. Grd.
- 1-36"x16" L. & S. Sel. Hd.
- 1-36"x14" Bdgford, Grd. Hd.
- 1-36"x14" Johnson, M.D.
- 1-30"x34"x12" L. & S.
- 10-26"x20, 18, 16" Bridgeford.
- 40-26"x18, 14, 10" N.B.P.
- 3-26"x12" Putnam, M.D.
- 25-26"x14, 12, 10" Bridgeford.
- 9-25"x12" LeBlond.
- 1-24"x10" Ciseo.
- 1-24"x10" L. & S. Sel. Hd.
- 1-24"x12" American.
- 2-20"x18, 16" Menarch.
- 20-20"x20, 16, 12, 8" Amer.
- 1-20"x8" American, Grd. Hd.
- 2-20"x10" LeBlond, Grd. Hd.
- 1-20"x8" L. & S. Sel. Hd.
- 1-20"x8" Lewis & Shipley.
- 1-19"x13" Reed-Prentiss, G.H.
- 1-18"x10" Lodge & Shipley.
- 3-17"x6" LeBlond Mfg.
- 2-16"x12, 6" Menarch.
- 3-16"x8, 6" Reed-Prentiss, G.H.
- 1-16"x8" Hendey, oil pan.
- 1-16"x8" Lodge & Shipley.
- 1-16"x8" Bradford.
- 1-16"x8" L. & S. Sel. Hd.
- 1-14"x12" LeBlond, Gd. Hd.
- 1-14"x8" Lodge & Shipley.
- 1-14"x10" Pratt & Whitney.
- 2-14"x6, 7" Reed-Prentiss, G.H.
- 1-14"x6" Menarch.
- 2-13"x8" Willard.
- 5-3 1/2"x80, 108" Le-Swing.
- 1-4"x60" Le-Swing.
- 4-14" Fay Automatic.
- 1-No. 12 LeBlond Multi-cut.

## MILLING MACHINES

- 1-No. 4-36" Cin. Hydromatic.
- 1-No. 3 Cincinnati, late.
- 2-No. 3-B Becker-Bradner.
- 13-No. 4, 3, 2, 2M, 1 Cin.
- 14-No. 5-B, 3-B, 2, 1-B, 1
- 4-No. 0 Brown & Sharp.
- 5-No. 3-B, 2-B, 1-B Mil.

- 1-No. 21 Brown & Sharp.
- 3-No. 2, 1 Kemp Smith.
- 2-No. 20 Oesterlein.
- 1-No. 1 1/2 Rockford.
- 7-No. 25 Becker.
- 1-No. 2-M Cincinnati, Univ.
- 1-No. 3 Kemp Smith, Univ.
- 1-No. 1B Milwaukee, Univ.
- 1-No. 6, 5, 4-B, 1 Becker, Vertical Millers.
- 2-No. 4 Cincinnati Vert.
- 1-No. 5, 2 B. & S. Vert.
- 1-No. 3 Sundstrand Rigidmill, late model.
- 3-Type B, Briggs Mfg.
- 5-48", 24", 18" Cin. Auto.
- 3-No. 33 Kemp Smith Mfg.
- 175-P. & W., Hendey Becker and Garvin Lincoln Millers.
- 1-24"x15"x20" Ingersoll.
- 2-24"x24"x12" Ingersoll.
- 1-36"x30"x2" Newton.
- 1-45"x17"x12" Ingersoll.
- 1-50"x20" Ingersoll.
- 1-No. 3, 92"x54"x15" Beaman & Smith Planer Type.
- 1-Beaman & Smith Open Sd.
- 1-3 spld. Beaman & Smith.

## GEAR CUTTERS

- 1-No. 5-60" Brown & Sharp.
- 3-No. 3-26" Brown & Sharp.
- 2-No. 36-H G. & E.
- 10-No. 12, 3 Barber-Colman.
- 5-No. 6, 61 Fellows.
- 1-No. 18-H G. & E.
- 1-No. 36-BM G. & E.
- 1-12"x24" G. & E.
- 1-12"x10" G. & E.
- 1-No. 1 Schuchardt & Schutte.
- 1-18" Gleason.

## BORING MILLS

- 1-10" Niles Vertical.
- 1-68" Betts Vertical.
- 1-72" Pond Vertical.
- 1-62" N.B.-P. Vertical.
- 1-61", 51" Baugh Vertical.
- 1-60" Gisholt Vertical.
- 1-60" Pittsburgh Vertical.
- 1-54" Bullard Vertical.
- 5-52, 42, 36, 30" Gisholt.

- 2-48"x42" Colburn Vertical.
- 2-44" Putnam Vertical.
- 3-12", 32" King Vertical.
- 1-36" Bullard Rapid Prod.
- 1-30" Flather Vertical.
- 1-No. 1 Cleveland Hor.
- 1-No. 5-3" Bar Defiance.
- 1-5" Bar Ingersoll Hor.
- 1-5" Bar N.B.-P. Floor.
- 1-2 spld. Espon-Lucas.
- 3-No. 3 Barnes Hor. Radial.
- 1-No. 1 Barrett Horizontal.
- 1-No. 2-5" Bar Barrett.
- 3-No. 2 Rockford Horizontal.

## GRINDERS

- 1-26"-37 1/2"x96 Norton.
- 1-20"x120" Landis.
- 1-18"x96" Norton.
- 1-16"x52" Landis.
- 1-16"x48" Landis Crank Pin.
- 9-14"x72, 50", 36" Norton.
- 2-12"x36" Modern.
- 22-10x72, 50, 36, 24" Norton.
- 7-10x72, 52, 36, 24" Landis.
- 1-10" Bryant Wide Wheel.
- 1-8"x18" Cin. Saddle Type.
- 2-No. 12-8"x36" B. & S.
- 5-6"x32" Norton, Plain.
- 1-5"x18" Ott. Plain.
- 1-No. 2, 2 1/2 Universal.
- 1-No. 1 Landis Universal.
- 1-No. 1 Modern Universal.
- 9-No. 60, 70 Heald Int.
- 1-No. 20 Bryant, Int.
- 1-14" P. & W. Vert. Surf.
- 2-12", 8" Heald Rotary.
- 1-8" Arter Rotary Surf.
- 1-84" Diamond Face.
- 3-No. 1 1/2 Cincinnati Cutter.

## TURRET LATHES

- 3-26", 18" Libby.
- 26-24" Davis.
- 8-24" Steinla, S. P. D.
- 8-24", 21" Gisholt.
- 2-No. 4-A, 2-A W.S.
- 1-21x8" LeBlond Univ.
- 2-No. 6 Brown & Sharp.
- 1-3"x36" Jones & Lamson.
- 3-2 spld. Jones & Lamson.
- 1-16" Cincinnati-Aeme.

- 2-14" Warner & Swasey.
- 1-No. 23 Britain Auto.
- 1-No. 5-A, 6-A P. & J.
- 1-36" Fay Automatic.

## DRILLS

- 1-6" Western.
- 4-6", 4" Reed-Prentiss.
- 1-5" American Triple Pur.
- 1-6" N.B.-P. Universal.
- 1-6" Hammond.
- 1-2 1/2" Gang, Geared.
- 1-2 spld. Sipp.
- 6-2, 3, 4, 6-spld. H. & W.
- 8-1, 3-spld. Leland-Gifford.
- 6-4, 3, 2, 1-spld. No. 2 Colburn, manufacturing.
- 3-No. 4, No. 17, No. 2, 4-spld. Foots-Burt Rail.
- 2-No. 14, No. 12 Nates Mult.
- 5-No. 14, No. 22, No. 26-AC, No. D-31 Fox Mult.
- 2-No. 2, No. 3 Western Mult.
- 3-No. D-4 Colburn.
- 2-No. 25-36" Foots-Burt.
- 2-No. 25-24" Foots-Burt.
- 1-25", 21" Weigle.
- 1-28" Hoefler, Slid. Head.

## PLANERS

- 1-72"x84"x12" Gray.
- 1-60"x48"x12" N.B.-P.
- 2-56"x56"x32", 18" Cin.
- 2-48"x48"x16", 10" N.B.-P.
- 1-48"x48"x10" Gray.
- 1-36"x36"x24" Gray.
- 3-36"x36"x18" Cincinnati.
- 2-36"x36"x10", 8" Ohio.
- 1-36"x36"x16" N.B.-P.
- 1-36"x26"x10" Whit-Blais.
- 1-36"x32"x8" Cincinnati.
- 1-30"x30"x14" N.B.-P.
- 1-25"x28"x10" Gray.
- 2-24"x24"x8" Gray.
- 1-24"x24"x6" Flather.
- 2-24"x24"x8" W. & P.
- 1-24"x24"x6" American.

## SHAPERS

- 1-24" G. & E., M.D.

- 1-20" Amer., M.D., self-ell.
- 1-20" Cincinnati, M.D.
- 1-16" G. & E., M.D.

## SCREW MACHINES

- 1-No. 10-3" Bardens & O.
- 5-No. 8, 6 Warner & Swasey.
- 1-No. 4 1/2" Millholland.
- 3-1" Pratt & Whitney.
- 3-2", 1 1/2", 9/16" Gridley.
- 3-1/2" 32 Mat. Armo Auto.
- 1-1 1/2" 6-spld. New Britain.
- 3-1 1/2" 4-spld. Gridley.
- 2-3/4" 1-spld. Gridley.
- 1-4" Model H Gridley Chuck.

## PRESSES

- 1-No. 54 Bliss.
- 12-No. 20 Bliss, O.B.I.
- 1-No. 4 Walsh, O.B.I.
- 1-No. 4 1/2" R. & K.
- 2-No. 208 Bliss S. S.
- 1-No. 54-B Toledo S.S.
- 1-No. 10 Zeh & Hahnemann.
- 1-No. 57 Toledo Noeing Pr.
- 5-No. 58 Toledo Noeing Pr.
- 1-No. 30-G-32 Clew. Gap.
- 1-No. 91-D Toledo S.S.
- 1-No. 201-C Spec. Toledo, Gap, Double Crank.
- 1-No. 203-B Toledo Gap.
- 1-No. 307 Bliss S.S. 9" stroke, Single Crank.
- 1-No. 5-C Bliss S.S.
- 1-No. 545 1/2" Hamilton S.S.
- 1-No. 202-C Toledo Gap.
- 1-No. C-15 Ferracuto O.B.I.

## MISCELLANEOUS

- 1-No. 1 Garvin Tapper.
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 22" Espen Lucas cold saw.  
 4' Wall radial drill press, 20" table.  
 20" x 12' lathe P. H., Lodge & Shipley.  
 5 Internal grinders, capital and small size.  
 No. 5 Sturtevant Co. press blowers.  
 Shapers 14-16-20-24" stroke.  
 3 x 36 J. & L. turret lathes, etc.

**COOPER MACHINERY CO.**  
 856 Tod Ave., Youngstown, Ohio

**Thread Millers and Gear Cutters**

- 3 Waltham Bench Thread Millers.  
 1 Waltham Automatic Pinion Cutter, No. 1.  
 2 Waltham Semi-Automatic Pinion Cutters, No. 1.  
 1 Waltham Semi-Automatic Pinion Cutter, No. 2.  
 2 Small Sloan & Chase Bench Pinion Cutters.  
 All of these are in A-1 Shape. Write for full description.

**IDEAL MACHINERY CO.**  
 Plainville, Conn.

1 No. 12 Natco Multiple Spindle Drill arranged for Motor Drive with motor.

1 No. 14 Natco Multiple Spindle Drill arranged for Motor Drive.  
**NOBLE MACHINERY CO.**  
 207 Centre St. New York, N. Y.

**BARGAINS****USED MACHINES**

- 1—No. 1 RYERSON High Speed Friction Saw, complete with all regular equipment.
- 1—PELS Angle Bar and Tee Shear, Type EF-14, No. 147729.
- 1—CRANE, 4-ton capacity, 20'6" span, 22' 0" overall length, CONCO Special Four Beam Motor Driven Underhung Type Traveling Crane, complete with two submerged Push Type "L" Trolleys from which are suspended a B-2-ton Lo-Hed Electric Hoist with drums mounted at right angles to bridge girders.  
 The above about 1 1/2 years old.  
 Can be seen in operation.  
**FROMENT & COMPANY**  
 150 Bank Street, New York City

**FOR SALE**

## DROP FORGING EQUIPMENT

Of Every Description

SPLENDID VALUES.  
 INSPECTION INVITED

**RICHMOND FORGINGS CORPORATION**  
 RICHMOND, VA.

**Two Bargains, Very Good Condition**

No. 3 Roversford Double End Punch & Shear, 28" throat, motor drive, complete with 7 1/2 H.P. A.C. Motor and Starter.  
 5 Feet Prentice Heavy Duty Radial Drill, gear box, single pulley drive.

**ALEX ZEEVE**  
 1179 Woolworth Bldg., New York City  
 PHONE: FITZROY 1678

# When you want ACTION

in disposing of your surplus machinery and equipment list it in the Clearing House Section of The Iron Age.

When we receive so many letters like this:

"We have had such excellent results with our advertising in Iron Age for the last month that we find it unnecessary to run it after this Thursday's issue."

—it simply shows that buyers watch the Clearing House Section.

## THAT'S WHY IT PAYS

## BOILER SHOP EQUIPMENT FOR SALE

- Price
- 1—"Bement-Niles" 75 Ton Hydro. Riveter, 8 ft. throat with 10-ton pivoted hydro. crane, accumulator and hydro. pump. \$500.00
  - 1—200-ton Hydro. Girder Press, 13' 2" long, will bend  $\frac{1}{2}$ " plate up to 13' long, has 9" vertical movement. 300.00
  - 1—Plate Bending Roll 6' 5" long, capacity  $\frac{1}{2}$ " plate. Upper roll 7 $\frac{1}{4}$ " dia. Lower Roll 6 $\frac{1}{2}$ " dia. 200.00
  - 1—"Long & Allstatter" Flange Punch, 6" throat capacity  $\frac{3}{8}$ " hole in  $\frac{1}{2}$ " plate. 100.00
  - 1—Plate Shear, throat 35", capacity  $\frac{5}{8}$ " plate. 100.00
  - 1—"Thompson" Bevel Shear, capacity,  $\frac{1}{2}$ " plate. 50.00
  - 1—"Pond" Radial Drill 6' 0" arm, bed plate, 3' x 7' 9", has removable table 30" x 30" x 30" 150.00
  - 1—Bolt and Pipe Machine, capacity 2" bolt. 25.00
  - 1—"American" Air Compressor, steam driven, compound air cylinders 10" x 10" and 10" x 16" 150.00
  - 1—"Mietz & Weiss" Fuel Oil Engine mounted with Air Compressor, having pulley for power takeoff, engine 9 x 10, compressor 8 $\frac{1}{4}$ " x 8".... 125.00

Approximately 50 Countershafts with solid and split pulleys. Boiler tube Expanders, Tube Cutters, Stay-bolt Taps, Pneumatic Air Drill (reversible), Drills, Reamers, Pipe and Bolt Taps.

**C. CUNNINGHAM  
BOILER WORKS**  
427-447 GREENPOINT AVE.  
BROOKLYN, N. Y.

- No. 3 $\frac{1}{2}$ B Bliss toggle drawing press Draw and lift out 6"
- No. 1 $\frac{1}{2}$ B Bliss toggle drawing press Draw and lift out 5"
- No. 1 Bliss toggle drawing press Draw and lift out 3 $\frac{1}{4}$ "
- No. 2 Max Ams double seamer
- No. 6 Becker vertical miller with rotary No. 3H LeBlond miller, vert. attach.
- No. 70 Heald internal grinder
- No. 2 Walker tool room grinder
- 16"x96" Landis plain grinder
- 21" Libbey full swing turret lathe
- 1 $\frac{1}{4}$ " Gridley 4 spindle multiple

Above are samples of what we have.  
Wire—write—or phone.

**A. D. WHITE  
MACHINERY CO.**  
108 N. Jefferson St. Chicago

**Large Hydraulic Press**  
1000 ton capacity, 13" ram, size of table 30 x 30, manufactured by John Robertson Co. In excellent condition.  
**ANDREN-MYERSON CO.**  
411 Atlantic Ave., Boston, Mass.

**SHEARS:** F.V. 55 Pels, capacity 5 $\frac{1}{4}$ " round 5" square cold Guillotine and other types, 1 $\frac{1}{4}$ " to 4" round.  
**PRESS BRAKE:** No. 508 Loy & Nawrath, wt. 28,000 lbs., 220 H.P. G. E. Synchronous Motor.  
**UPSETTERS:** 1", 1 $\frac{1}{2}$ ", 1 $\frac{3}{4}$ ", 2", 2 $\frac{1}{2}$ ", 3", 4" and 5", Ajax and Acme.  
**BULLDOZERS:** Nos. 1, 2, 3, 4, 7 and 9 Williams White.  
**BRADLEY HAMMERS:** All sizes, helve and upright.  
**Single and Double End Punch Presses.**  
**PRESSES:** Inclined, solid back and straight sided.  
**BOLT HEADERS:** Cold and hot, various capacities.  
**Bolt Trimmers, Tappers, Threading Machines and other bolt machinery.**  
**DIE SINKERS:** Nos. 2 and 3 Pratt & Whitney.  
Complete 10", 4 stand, Rolling Mill, Break Down Mill, Rail Splitter and Bolt Lathe.

**DONAHUE STEEL PRODUCTS CO.**  
74th STREET AND ASHLAND AVENUE  
CHICAGO, ILLINOIS  
Practical Specialists in the Purchase and Rental of Bolt, Nut, Rivet and Forging Machinery

### SHERIFF'S SALE To Highest Bidder for Cash

Ajax upsetter complete with rolls, size 4" sq. Alligator shears, size 1 $\frac{1}{4}$ " square cold rolled, 2 rams, drill press, nut machine, threader machine, castings, axle steel, reamers, gauges, etc. October 3, 1930.

Powell Woodward, Sheriff,  
Connersville, Indiana.

### DRYER

Louisville, steam, 66" dia. 22 ft. long. 32-4 $\frac{1}{2}$ " tubes, all in prime condition, bargain.

### MOTORS

- 1—Fairbanks-Morse 150 H.P. Type B, 60 cycle, 3 phase, 550-1100-2200 volt, 690 r.p.m.
- 1—General Electric, 150 H.P., Type I, 60 cycle, 3 phase, 550-1100-2200 volt, 570 r.p.m.

Mallory Machinery Corp.  
Baltimore, Md.

### WELDERS

### PRICED TO SELL

These prices cover complete equipment as illustrated and represent but a fraction of the original cost.

200 Amp. M.G. Set (as illus.)	\$450.00
300 Amp. M.G. Set (as illus.)	500.00
400 Amp. M.G. Set (as illus.)	600.00
500 Amp. M.G. Set (as illus.)	800.00
600 Amp. M.G. Set (as illus.)	900.00

**THE MOTOR REPAIR & MFG. CO.**  
1553 Hamilton Ave. Cleveland, Ohio

### WELDERS

### BUTT - SPOT - SEAM

We are specialists in rebuilt welding machines.  
Write us for our long list to select from.  
**TAYLOR-HALL WELDING CORP.**  
89 Hope Ave., Worcester, Mass.

**500-BLOWERS-FANS-EXHAUSTERS-500**  
Spencer Turbine 5400'; Gen'l Elec. 2500'; Root-Connorsville, Piqua, Green, Sturtevant, Position Pressure Rotary Blowers. Large stock, all pressures. Fan Types—Am. Blower Co., Buffalo, Sturtevant, Garden City, Clarage, etc. Air Compressors, Receivers, Vacuum Pumps, all purposes. Transcendous Stock. High and Low Pressure. Small and Large Volumes. Send Specifications. Reliable "Wind Jammers" for every application. MONEY SAVING BARGAINS.  
Clifton Mehry, Co., 1623 West 6th St., Cincinnati, O.

### Two 150 Horsepower, Return Tubular Boilers

complete with stacks and all parts including stokers.  
Boilers in use at present and only being disposed of due to removal to another plant.  
**ADDRESS BOX G-511**  
care The Iron Age, 239 W. 39th St., New York.

### FOR SALE

### 2300 FT. . . . WORTHINGTON MOTOR DRIVEN AIR COMPRESSOR

100 lbs., 3 phase, 60 cycle, 2200 volts. Must move quickly.

Price . . . . . \$6000.00

ADDRESS BOX C-877

Care The Iron Age,  
1362 Hanna Bldg., Cleveland, O.

### ATTRACTIVE PRICES BEFORE REMOVAL

200 KVA, 220 volt, 3 phase, 60 cycle, Burke generator direct connected to Filer-Stewart Uniflow engine.  
676 cubic foot capacity Ingersoll-Rand Imperial type 10XCB, size 13" and 9 $\frac{1}{4}$ "x12", 2 stage air compressor, short belt idler drive with 100 H.P. Synchronous motor.

### Still on foundations

### GENERATOR SETS

2—50 KVA, 220 volt, 3 phase, 60 cycle Ridgway Generators, direct connected to Ridgway Engines.  
1—300 KW 2300 volt, 3 phase, 60 cycle Turbo generator set with condenser.

### BOILERS

- 2—300 H.P. Heine Water Tube, 160 lbs. pressure, A.S.M.E. code.
- 2—180 H.P. Keeler water tube, 200 lbs. pressure, A.S.M.E. code.
- 1—150 H.P. 72"x18" hor. ret. tubular, 150 lb. pressure, A.S.M.E. code.
- 2—125 H.P. Locomotive Portable, 125 lb. Press. A.S.M.E.

### HEATERS

- 2—1000 H.P. Cochrane open type Feed Water Heaters.

**O'BRIEN  
Machinery Company**  
113 N. 3rd St., Philadelphia, Pa.

### BARGAINS

### A. C. MOTORS

H.P.	Make	Volts	Type	Speed
1-600	G. E.	440/220	T8-Synch.	260
1-600	G. E.	550/440	IM-Slip Ring	1200
2-500	Al.Ch.	2200/550	ANY-Slip Ring	505
2-300	West.	440/220	G.-Synch.	800
1-200	West.	440/220	CW-Slip Ring	500
2-200	F. Mor.	440/220	BV-Slip Ring	600
1-150	G. E.	440/220	IK-Sq. Cage	1200
10-100	West.	550	CS-Sq. Cage	700
2-100	West.	220	CS-Sq. Cage	720
1-82	G. E.	440/220	ITC-M Sl. Ring	485
1-75	G. E.	440/220	MT-Slip Ring	685
1-75	West.	330/440	CS-Sq. Cage	870
1-70	G. E.	330/440	ATT-SYNCH.	1200

### ROTARY CONVERTER

1—165 k.w. G. E. Type HCC—125-250/275 v., 6 ph., 60 cy., 1200 r.p.m. Fully complete with 3-80 K. V. A. 2070/2300-4000 V. transformers and 3 wire S/B.



Large Stock of FULLY GUARANTEED a.c. and d.c. MOTORS — GENERATORS — TRANSFORMERS and ELECTRICAL EQUIPMENT.

**BELYEA COMPANY**  
Incorporated  
147 West 18th St.,  
New York City

### Turbo Generator

One—1000 KW. Parsons Turbine and Allis-Chalmers Generator. Now 2 phase (Can be rewired for 3 phase) 60 cycle, 2300 volt, 1800 R.P.M. and complete with Barometric Condenser, condenser pump, oil filter, oil circulating pump and all 32" C.I. pipe from turbine exhaust to condenser. All equipment was furnished by Allis-Chalmers Company of Milwaukee and installed complete in Canada and never put into service. Attractive proposition to move same quickly.

**F. E. SMITH**  
ROOM 23

204 HOSPITAL ST. MONTREAL



**MOTOR GENERATOR**

500 KW., 250 Volt, Gen. Electric Inter-pole generator, type MPC., direct connected to 700 HP., 3 phase 60 cycle, 440/2300/4000 volt, Gen. Elec. synchronous motor with A. C. and D. C. panels.

**MILL MOTORS**

- 2—60 HP., MC4 Westgh.
- 1—75 HP., MC4 Westgh.
- 2—100 HP., MC4 Westgh.
- 2—125 HP., MC5 Westgh.
- 2—240 HP., G.E. C02011.

**George Sachsenmaier Co.**

8407 Hagerman St., Holmesburg, Phila., Pa.

- 1—300 H.P. Smith Gas Producer.
- 1—150 H.P. Rathbun-Jones Gas Engine. 100 K.W. Direct Connected Generator-Direct Current.
- 1—75 H.P. Rathbun-Jones Gas Engine 50 K.W. Direct Connected Generator-Direct Current.
- 2 Switchboards, complete, with Ammeters and Voltmeters.

This Power Plant is now running and has been used for a number of years with very good satisfaction. Will sell cheap.

**LUMMIS AND COMPANY**

146 N. Delaware Ave. Philadelphia, Pa.

**CRANES**

The following are all high grade, available for immediate shipment.

- 1—5 ton Box 60' span, 3-motors, 220-VAC.
- 2—5 ton Maria 60' span, 3-motors, 220-VAC.
- 2—10 ton Maria 60' span, 5-motors, 220-VAC.
- 2—10 ton Morgan 65' span, 230 VDC.
- 1—40 ton Shaw 80' span, 4-motors, 230-VDC.
- 1—60 ton Morgan 55' span, 4-motors, 230-VDC.

**SPECIAL**

- 1—Box crane, 95% new, 60' span, 10-ton cap. 2-separate 5-ton trolleys, 220-VAC. wheel base 11'-6", hoist 30-F.P.M., trolley 125-F.P.M., bridge 325-F.P.M. (this is really a 15-ton crane).

**T. B. MacCabe**

2224-30 West Lippincott Street, Philadelphia, Pa.

**Cranes—Compressors**

- Compressors—458 ft., 610 ft. short belt dr. Ing. Rand.
- 1—25 ton Ohio Loco. crane.
- 1—10 ton P & H crawler gas crane.
- 1—10 ton Oswood crawler gas crane.

**J. T. WALSH**

Brisbane Bldg., Buffalo, N. Y.

**CRANE BARGAIN**

- 10 ton Cleveland Traveling Crane, bridge span—48'-6", 220 volt D.C. current, 8 H.P. Crocker-Wheeler bridge motor, 8 H.P. Crocker-Wheeler hoist motor, hand operated trolley, crane is operated from floor.

Ideal for warehouse or similar intermittent service. Price as is: \$850.00 f.a.b. Erie, Pa.

Erie Steel Construction Company, Erie, Pa.

**A.C.—OVERHEAD TRAVELING CRANES—D.C.**  
 40-Ton Northern, 10-ton auxiliary, 4-motor, practically new, 47' 1 1/2" span, 220 volts D.C.  
 25-Ton Cleveland, 4-motor, brand new, cage controlled, span to suit, 220-440 volts, 3 ph., 60 cycle.  
 10-Ton Niles or Shaw, 3-motor, good condition, cage controlled, 50' 4" span, 220-440 volts, 3 ph. 60 cy.  
 5-Ton Niles Crane, 3-motor, cage controlled, span to suit, 220 volts D.C. or will sell trolley alone.  
 1-Ton Brown Hoist, 3-motor, 25' 6" span, cage controlled, 220 volts D.C.  
 Jean P. Arnel, 325 Felton Bldg., Pittsburgh, Pa.

**5-ton Shepard Crane**

Class B, floor control, 220 Volt D.C. one-motor standard type, with one hoist, form 6-2 parts double hoisting rope, max. lift 40', span 18'5".

**SCULLY-JONES & COMPANY**

19th & Rockwell Sts., Chicago, Ill.

**CRANES****HOISTS**

**3-ton, 2-motor SHEPARD**  
 electric hoists, heavy duty, high speed. 80% new condition.

**5, 7 1/2, 10, 20 & 40-ton**  
 overhead cranes, 20-ft. to 80-ft. spans. A.C. & D.C., to meet any industrial need quickly.

Telephone, wire or call for details

See page 61

**LOCOMOTIVE CRANES**

15-ton Brown Hoist, 20 ton Industrial, 25 ton Ohio—all 8-wheel 50-ft. boom with or without 7 1/2 K.W. Generator and 45 in. Magnet.

**FLAT CARS**

8—80,000 lb. cap. 41-ft. long.  
 10—100,000 lb. cap. 41-ft. 6-in. long.  
 All steel, wood decks, A-1 condition.

**HYMAN - MICHAELS COMPANY**

Railway Exchange 20 N. Wacker Dr. Bldg.  
 St. Louis, Mo. Chicago, Ill.

**A.C. and D.C. CRANES**

50T. 50'; 30T. 72' and 25T. 75' Spans A.C.  
 14x9x10 COMPRESSOR MOTOR DRIVE.  
 2-5000 AMP. PLATING GENERATORS.  
 100-140T. 65' Span, 2 Trolleys—D.C.  
**4 NEW HYD. PUMPS**

305 GPM-1500 lb. arranged motor drive  
 ROSS POWER EQUIP. CO., Indianapolis, Ind.

**LIFTING MAGNETS**

- 45" E C & M 30" Ohio
- 43" C H 18"x32" C H
- 18" C H

All of these magnets are guaranteed

**Goodman Electric Machinery Co.**

1060 Broad St., Newark, N. J.

Note new address

**Second Hand Williams Bucket**

Williams 1/2 Yd. Bucket, Rehandler type, without teeth, Weight—2250 lbs.

Bucket is in good condition.

Price: \$300.00 f.a.b. Erie, Pa.

**ERIE STEEL CONSTRUCTION COMPANY**

Erie, Pa.

**BARGAINS**

120—80' Span Steel Roof Trusses with Monitor.  
 1900—7" 0.75 lbs. Channel Purlins 16'0" Long.  
 225—6" 12.25 lbs. I-Beam Struts 16'0" Long.  
 120—12" Built Up Plate and Angle Columns 30'0" Long, 8 1/4" Face. 4—4"x3"x 1/2" La.  
 36—18" 55 lbs. I-Beam Crane Girders 16'0" Long.  
 108—24" Built Up Plate and Angle Crane Girders, 16' Long, 7 1/2" Face. 4—3 1/2"x3"x 1/2" La.  
 42—24" Built Up Plate and Angle Crane Girders, 16' Long, 10 3/16" Face. 4—5"x3"x 1/2" La.  
 Large accumulation of Trusses, Cranes, Crane Girders, Columns, Angles, Channels, and I-Beams available. Send us your requirements.  
**BRIGGS & TURIVAS**  
 Zanesville, Ohio

**FOR SALE**

**Tank Car Storage Tanks**  
 all over the country

**Railway Car & Equipment Corp.**

East Chicago, Indiana (Chicago Suburb)  
 Cars Lenses Repairs Car Parts

**PIPE NEW**

**SECONDHAND**

Overhauled and Tested  
 New Threads and Couplings  
 Established 1904

**Albert & Davidson**  
**Pipe Corp.**

2nd Ave., 50th-51st Sts.  
 Brooklyn, N. Y.

Second Hand Wrought Iron and Steel **PIPE** Overhauled Rethreaded Coupled

All Sizes in Stock

**Greenpoint Iron & Pipe Co., Inc.**

187-189 Maspeth Avenue, Brooklyn, N. Y.

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**ALBERT PIPE SUPPLY CO., INC.**

NEW-RECLAIMED-USED

**PIPE**

ALL SIZES CUT TO SKETCH  
 AND STOCKED

**BERRY & NORTH 13th STS.**  
**BROOKLYN, N.Y.**

GUARANTEED

**PIPE NEW AND SECOND HAND**

Overhauled with new threads and couplings  
 PIPE CUT TO SKETCH  
 ALSO TUBES OF ALL SIZES  
**ATLANTIC STEEL & PIPE CORP.**  
 Stewart Ave. & Meadow St., Brooklyn, N. Y.  
 Tel. Pulaski 9200

Second Hand **PIPE** New Threads  
 Black & Galv. & Couplings

**Special Price-2" Black**

**L. & D. PIPE SUPPLY CO., INC.**  
 1100 Flushing Ave., Brooklyn, N. Y.

**Louis Cohen & Son**  
**IRON—STEEL—SCRAP**  
**RELAYING RAILS**

**WE DISMANTLE PLANTS**

Office: Wilkes-Barre, Pa. Yards: Wilkes-Barre, Pa. Buttonwood, Pa.

**THE PERRY BUXTON DOANE CO.**  
**IRON—STEEL—SCRAP**  
**DISMANTLING**

OFFICES: Boston Philadelphia Bt. Boston Providence  
 New York Hartford Cantonville Worcester  
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100—50 Tons Capacity  
ALL STEEL HOPPER  
DUMP ORE CARS  
In Splendid Condition  
Lowest price in years  
DULUTH IRON & METAL CO.  
Duluth, Minn.

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Relaying

TRACK MATERIALS  
FROGS & SWITCHES

Write or phone your inquiry  
at our expense

The PERRY BUXTON  
DOANE COMPANY  
1010 Pennsylvania Bldg.,  
Philadelphia, Pa.

## RAILS NEW & RELAYING

ALL WEIGHTS  
Please advise weight per yard and tonnage you  
want. We may have same in stock right near  
you. We can make very low prices on New  
Frog and Switch Material; also second hand  
Locomotives.

We buy Rails fit to relay.  
ROBINSON & ORR  
Columbia Bldg., 246 Fourth Ave., Pittsburgh, Pa.

## RELAYING RAILS

All Sections

Continental Iron & Steel Co.  
33 Rector Street New York, N. Y.

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TRACK MATERIALS RAILWAY EQUIPMENT  
E. C. SHERWOOD 48 Church St.  
New York  
Tel. N.Y. Cortland 3-22-3203

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New Relay  
All Weights

Special this week.

60 Tons 20 lb. No. 1  
RELAY and SPLICES  
Special Low Price.

### DIESEL ENGINES

20 HP Vonn Severin, First Class.  
75 HP Fairbanks Morse, Type Y, Rebuilt.  
120 HP Fairbanks Y, Style VA, complete for belted  
or direct connected Service, A-1.  
180 HP Fairbanks Y, Style VA modern full Diesel  
cold start Engine direct connected to 150 KVA.  
3/60/2300 V Alternator. Like New. Special  
low Price if purchased before we remove, can be  
shown operating.

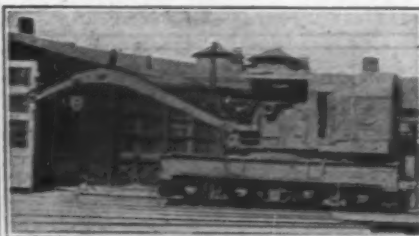
### AIR COMPRESSORS

5—3 1/2" Westinghouse Loco Type, Good.  
2—10 1/2" Westinghouse Cross Compound, First  
Class.

### LOCOMOTIVE

62 Ton American 6 wheel Switcher, Rebuilt or as  
is. A Real Buy.

### WRECKING CRANE



50-60 ton Industrial Works, ASME Boiler, Rare-  
lent. Low Price to move quick.  
Before Buying or Selling anything consult

## ZELNICKER IN ST. LOUIS

Steel Piling a Specialty. Railroad & Contractors  
Equipment. Cranes, Shovels, Boilers, Oil Engines,  
Compressors, Tanks, Pipe, etc.

## RAILS

ALL TRACK ACCESSORIES  
NEW and RECONDITIONED

CHICAGO BUFFALO PITTSBURGH  
INDIANAPOLIS HARRISBURG

MORRISON  
RAILWAY SUPPLY CORP.

## 50,000 TONS

\*RELAYING and new RAILS

### STANDARD SECTIONS

Sizes—12 lbs to 130 lbs.

Prices—Will stimulate your  
choice in a competitive  
market.

Shipment—Same day your  
order is received. Can ship  
at same time Angle Bars and  
Splice Bars, Bolts and Nuts,  
Spikes, Tie Plates, Frogs,  
Switches, etc.—all properly  
fabricated and matched so that  
you can lay track promptly.

\*Foster Relaying Rails are  
thoroughly reconditioned by ex-  
perts using machinery especially  
designed for this purpose.

All material unconditionally  
guaranteed—subject to your  
inspection and approval at  
destination.

Phone, write or wire for quotation.



L.B. FOSTER COMPANY  
PITTSBURGH - NEW YORK - CHICAGO

WAREHOUSES AT CONVENIENT POINTS

500 tons ASCE Rail  
2000 tons ASCE 85's

Other sections also in stock. Inquiries solicited,  
prices cheerfully quoted.

M. K. FRANK

225 East 42nd St.  
New York, N. Y.

Clark Building  
Pittsburgh, Pa.

## We Want To Buy

Wanted to Buy

1 Bausch & Lomb Projecto-  
scope

1 No. 1-A Sellers Tub Grinder

ADDRESS BOX G-514  
care The Iron Age, 239 W. 39th St., New York.

### WANTED—SHEAR

to cut cold 65,000 lb., tensile steel, 6 1/2 square  
or larger—power or hydraulic.

Address Box G-512, care THE IRON AGE,  
239 West Thirty-ninth Street, New York,  
N. Y.

WANTED

One Ton Electric Steel  
Furnace with Complete  
Equipment

NOVO ENGINE CO., Lansing, Mich.

Profit by using

THE CLASSIFIED  
SECTIONS

of The Iron Age

### NATIONAL HEADER

automatic feed 1" continuous or 1 1/4" stop  
motion.

### GANTRY CRANE

20 to 50 tons capacity.

HENRY POTTS & CO.  
Bankers Trust Building,  
Philadelphia, Pa.

## 15 TANKS

10,000 to 25,000 Gal. For Gasoline and  
Fuel Oil. Must be first class. Prices Low.  
Pay Cash.

ADDRESS BOX G-520  
care The Iron Age, 239 W. 39th St., New York.



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## Franklin Machine Company Engineers—Founders—Machinists PROVIDENCE, R. I.

**WANTED:**—Light and Heavy Machine Work of all kinds, also light and heavy gray iron castings up to 40,000 lbs. in one piece.

## SPECIAL MACHINERY

**TOOLS—** We operate a large  
**MACHINE** plant devoted exclu-  
**PARTS** sively to above work  
and have every facil-  
ity necessary in equipment and engi-  
neering experience.

Correspondence solicited.

**C. H. COWDREY MACHINE CO.**  
30 Summer St. Fitchburg, Mass.

## Your Inquiries Solicited

For  
Special Machine Work in large or  
small quantities.  
Special Machinery to your speci-  
fications.  
Machine Development Work.

Our mechanics are especially skilled in building automatic and semi-automatic machinery, and our machine equipment and handling facilities are complete.  
We are especially well equipped for large production, milling, planing and drilling. Let us quote you on your requirements.

**THE MAX AMS MACHINE CO.**  
BRIDGEPORT, CONN.

## SPECIAL MACHINERY CONTRACT MANUFACTURING —EQUIPMENT —PERSONNEL —VIEW POINT



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HARTFORD, CONN.  
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We have capacity for a limited amount of additional medium weight machine work requiring accuracy. Pieces up to 5 tons.

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ALLOY AND  
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WE GUARANTEE  
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In the rough or machined.

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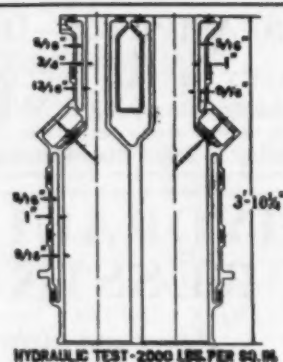
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Whatever you need—small,  
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Put your headed work problem up to  
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We are in a position at this time to name  
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Any size from any steel.  
Allowing us an opportunity to quote will not  
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We regrind metal cutting band and hack saws  
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Well established machinery manufacturer with comprehensive plant and yearly volume of business exceeding \$300,000 will entertain proposal for consolidation with a financially responsible concern having a specialized mechanical line, who are in position to combine with us and take over operation of plant.

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In High Point, N. C., a completely equipped foundry, machine shop and pattern shop, now in operation. Fine location; substantial buildings; very reasonable price. Apply to L. U. Noland, Newport News, Va.

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Full Set of Drawings and complete Set of Patterns of a line of High Pressure Die Casting Machines. Can show machines in operation. No patents. Highly meritorious with good possibilities. Reason for selling—lack of capital to manufacture for the trade. Price—less than cost of patterns and drawings. For details

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Old established commercial drop forge company with excellent reputation would like to communicate with manufacturers' agents all over the United States. Those that have a thorough understanding of drop forgings and that cover limited territory preferred. Commission basis.

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### Manufacturers Representative

Salesman with 20 years' experience selling steels desires several outstanding accounts. Steel, Small Tools or Specialties. Commission Basis only. Thorough coverage Southern New England Territory from Hartford. Highest References.

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### CANADIAN SALES ORGANIZATION

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covering entire wholesale  
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can efficiently handle one  
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**DROP FORGING MANUFACTURER**  
desires services of manufacturers representative who is in contact with trade using forgings made on eight hundred to twenty-five hundred pound hammers.

Must be able to produce results. Territory, New York, Pennsylvania, New England.  
Reply stating qualifications, past experience and territory you are traveling.

**ADDRESS BOX G-515**

Care The Iron Age, 239 W. 39 St., New York.

### MANUFACTURERS' REPRESENTATIVE

Age 42. Technical education, practical experience, 20 years. Mechanic, draftsman, plant superintendent, sales engineer, desires connection as exclusive representative with reputable manufacturers of machine tool equipment for Cleveland and adjacent territory. Highest references. Box C-577, The Iron Age, 1362 Hanna Bldg., Cleveland, Ohio.

### Well Established Rolling Mill

has extra capacity available in New York district. Work desired to fill schedule on mill now running part time.

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#### American Manufacturers

#### Do You Contemplate Establishing A Canadian Branch Plant?

Why not give us an opportunity to manufacture for you, until your requirements warrant a separate Plant investment?

We have excess manufacturing capacity.

HAMILTON, Ontario, where we are located, enjoys exceptional distributive facilities.

We produce all kinds of ALUMINUM, ZINC, and WHITE METAL DIE CASTINGS by DOEHLER PROCESS—also all kinds of BRASS, BRONZE and ALUMINUM FOUNDRY CASTINGS.

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BOX G-274

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(Qualified Experts in all lines)

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Expert on metal products and metallurgical patents. Examiner U. S. Patent Office for 16 years.

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TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., September 17, 1920.—SEALED BIDS will be opened in this office at 3 p.m., October 15, 1920, for the main and emergency ventilating entrances for the three-story vault in the U. S. assay office (new), New York, N. Y. In awarding the contract, consideration will be given only to manufacturers of vault entrance equipment who have previously furnished and installed work comparable in all respects with that for which the bid is submitted, and who can, if so requested, show evidence that they have performed such work in a satisfactory manner. Drawings and specifications may be obtained at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

## Employment Exchange

### HELP WANTED

**GENERAL SUPERINTENDENT** — Thoroughly experienced in plant layout and operation of large bridge, structural and tank fabricating plant wanted for service in Russia. Applicant must be able to select his own assistants to install and operate the various sub-divisions of the plant under his general direction. Give full record of past experience, references and state when available. Address Box G-492, care The Iron Age, 239 W. 39th St., New York.

**INDUSTRIAL FURNACE ENGINEER** familiar with design and sales of oil and gas fired furnaces is offered permanent position with well established firm of excellent reputation. In reply please state qualifications and salary. Address Box G-521, care The Iron Age, 239 W. 39th St., New York.

### SITUATIONS WANTED

**SUPERINTENDENT or GENERAL FOREMAN**, with experience in sheet metal layout and fabrication. Must be able to take entire charge of shop from the layout from drawings to the production of the finished article. Record of results necessary, which please state with experience and salary wanted in first letter. Position available immediately. Address Box G-517, care The Iron Age, 239 W. 39th St., New York.

**SALES REPRESENTATIVE WANTED** in the west with experience in sales of Tool Steel, good executive qualities and connections among users and distributors, Chicago resident preferred; good opportunities; write fully, giving uninterrupted curriculum vitae to Box 7400-A, care The Iron Age, 1507 Otis Bldg., Chicago, Ill.

### HELP WANTED

**SALES REPRESENTATIVES** who can produce to complete our sales organization in Exclusive Open Territories; commission only. Syrosil is an established refractory lining for Industrial and Steam Boiler Furnaces used by Studebaker and other large firms. It is infusible at 3400 deg. F., resists slag and iron oxide. Syrosil Company, Elkhart, Ind.

**FACTORY SUPERINTENDENT** for plant making sheet metal cabinets. One with successful record and experience in modern shop practice in production and assembly. State in first letter, complete details of experience together with salary wanted and when available. A good job for the right man. Address Box G-516, care The Iron Age, 239 W. 39th St., New York.



# Employment Exchange

## HELP WANTED

**FIRST CLASS SALES ENGINEERING REPRESENTATION** wanted in Boston, New York, Philadelphia, Buffalo, Cleveland, Pittsburgh, Detroit and Cincinnati by old and well established Ohio corporation. Our production facilities and organization cover the complete field of Sheet Metal and General Plate Fabrication manufacture varying from the lightest of gauges to 1/2" plate, welded, pressed steel and riveted construction. This connection will be strictly on a commission basis. Address Box G-467, care *The Iron Age*, 239 West 39th St., New York.

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When General Managers, Sales Managers, Works Managers, Chief Engineers, Factory Managers, Superintendents, Metallurgists, Comptrollers, Treasurers and other important men in the metal-working industries can be better served in making new connections than they have been for 12 years by us, this organization will be selected for the task. Businessmen in the metal-trades you want to reach know us and believe in us. Not an employment agency. **JACOB PENN, Inc.**, 535 Fifth Avenue, corner 44th Street, New York City.

## SALARIED POSITIONS \$2,500 to \$25,000

If you are qualified for position between \$2,500 and \$25,000, and are receptive to negotiations for new connection, your response to this announcement is invited. The undersigned provides a thoroughly organized service, established twenty years ago, to conduct confidential preliminaries and assist the qualified man in locating the particular position he desires. Not a registration bureau. Retaining fee protected by refund provision, as stipulated in our agreement. Send name and address only for description of service. **R. W. Bixby, Inc.**, 274 Main St., Buffalo, N. Y.

## POSITIONS OPEN

for Works Managers; Superintendents; Foremen; Mechanical, Electrical, Metallurgical and Chemical Engineers; Draftsmen, Sales and Office Executives. No advance charges. Confidential.

**H. H. HARRISON, Inc.**  
A Personnel Agency  
20 W. JACKSON BLVD., CHICAGO, ILL.  
17 Years of Employment Service Experience

**AMERICAN ENGINEERS SERVICE**, Harrisburg, Pa., require for correspondence proposals classified employment records of designing, industrial, power, structural, machine tool, machinery engineers, estimators, draftsmen. Service covers east half of United States.

## SITUATIONS WANTED

**STEEL MELTER**, not employed at present, experienced in Open Hearth and Electric Furnaces. Good references. Address Box G-472, care *The Iron Age*, 239 W. 39th St., New York.

## SITUATIONS WANTED

**OUTSTANDING SALES EXECUTIVE**—Offering fifteen years' experience in manufacturing and sales promotion, covering practically every state east of Mississippi River. Experienced in electric welded steel, copper and brass tubing, foundry practice and kindred lines. Knowledge of business organization and financing. Welcomes thorough investigation of past accomplishments and references. Chicago residence. Address Box G-519, care *The Iron Age*, 239 W. 39th St., New York.

**SUPERINTENDENT OR GENERAL FOREMAN**—Practical and technical training with 20 years all around manufacturing experience along the line of modern machine shop production, and assemblies including tools, fixtures, and dies. Executive qualifications necessary to supervise men with record of results. Available immediately. Any location in the U. S. A. Address Box G-287, care *The Iron Age*, 239 West 39th St., New York.

**GENERAL MANAGER**, light or heavy work. Foundry or Machine Shop. Splendid organizer, improver of quality and reducer of costs. Accustomed to having complete responsibility including office engineering and sales. At present engaged but working under serious handicap through executive interference. Good record. Address Box G-461, care *The Iron Age*, 239 West 39th St., New York.

**SEASONED ADMINISTRATOR**, graduate engineer, age 39, outstanding accomplishments, in business engineering and finance, available to progressive growing concern. Investment considered—location and compensation secondary to opportunity. Unquestionable credentials. Address Box G-498, care *The Iron Age*, 239 W. 39th St., New York.

**ASSISTANT TO SALES MANAGER** or District Manager desires new connection. Technical Graduate. 7 years' experience in Machine Tool and small tool trade with shop and broad sales experience, also foreign. Address Box G-469, care *The Iron Age*, 239 West 39th St., New York.

**SALESMAN**, age 35, well experienced in selling gray iron castings in New York City (where there is a big field) desires position with good foundry who is reliable and wide awake. References furnished. Address Box G-470, care *The Iron Age*, 239 West 39th St., New York.

**GENERAL MANAGER**, 38, available. Successful record sales, production and general administration with over fifteen hundred employees. Reputation for increasing profits. Address Box 189-D, care *The Iron Age*, 157 Otis Bldg., Chicago, Ill.

**SALES EXECUTIVE OR GENERAL SALES MANAGER**—39, broad technical, shop and engineering experience. Eight years as director of sales and machine tool salesman for concern of national scope. Central West preferred. Address Box G-499, care *The Iron Age*, 239 W. 39th St., New York.

**ASSISTANT FACTORY MANAGER**—32. Technical graduate, complete knowledge all phases machine shop work: Manufacturing, Jobbing, Experimental, Tools, Fixtures, Estimating. Excellent References. Address Box G-500, care *The Iron Age*, 239 W. 39th St., New York.

**STEEL SALESMAN**—Wants New England territory exclusive, 20 years' experience on tool steels, Mining and Rock Drill steels, covering territory regularly, commission or profit sharing basis only. Address Box G-518, care *The Iron Age*, 239 W. 39th St., New York.

**SALESMAN OF EXPERIENCE** and executive ability located in the Metropolitan District, would represent reputable manufacturer of staple products. Address Box G-471, care *The Iron Age*, 239 West 39th St., New York.

## SITUATIONS WANTED

**GENERAL MANAGER**, with broad and thorough business training and experience is available for connection with a reliable company requiring a man of well balanced judgment, organizing ability and proven capacity to get results. Experience includes fifteen years as General Manager of machinery, tool, foundry and allied industries with executive responsibility of all office, sales, financial and production activities. Interested primarily in a position requiring reliable, efficient executive ability at a reasonable salary with bonus for results. Address Box G-444, care *The Iron Age*, 239 W. 39th St., New York.

**EXECUTIVE AVAILABLE, HARD JOB DESIRED, ENGINEERING TRAINING, EXCELLENT ORGANIZER, WAGE INCENTIVE PLANS USED, SALES MANAGEMENT, WAREHOUSING, SERVICE, FINANCIAL AND SHOP EXPERIENCE, AGE 36, HEALTH PAR PLUS, WHITE COLLAR POSITION NOT NECESSARY. ADDRESS BOX G-445, CARE THE IRON AGE, 239 WEST 39TH ST., NEW YORK.**

**GENERAL MANAGER**, member of well known firm of Management Engineers desires to correspond with corporation requiring a general manager. Technical graduate with 22 years' experience in the production field. Ten years in present position installing modern methods of management in small and large corporations throughout the country. Address Box G-364, care *The Iron Age*, 239 W. 39th St., New York.

**MANUFACTURING EXECUTIVE**—Capable mechanical engineer and master mechanic of superior type; 20 years' experience in machine, tool, stamping, foundry and allied industries; highly skilled in design, development, purchasing, production and cost reduction; expert in plant organization and management. Available on short notice. Address Box G-478, care *The Iron Age*, 239 W. 39th St., New York.

**SUPERINTENDENT, GENERAL FOREMAN** twenty years. Shop drawing room and executive experience on Automatic Screw Machines, Punch Press and Tool room; cutting cost and increasing production. Systematizing of Departments. Seven years Production Engineer and General Foreman. Technical education. Age 39 years. Finest of record. Address Box G-423, care *The Iron Age*, 239 West 39th St., New York.

**EXECUTIVE**, technical, unusual qualifications for position requiring diverse experience and knowledge of detail gained by direct contact, all phases of management, production economies, costs, correspondence and wage incentives in sheet metal, foundry, machine shop and wood-working plants in open for permanent connection. Address Box G-485, care *The Iron Age*, 239 W. 39th St., New York.

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## BROACHING MACHINES

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**CARBID**

Union Carbide Sales Co., 30 E. 42nd St., New York City.

**CARBIDE**

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Rogers Brown & Crocker Bros., Inc., 21 E. 40th St., N. Y. C.  
Walter-Wallingford & Co., Cincinnati, O.

**COKE OVEN MACHINERY**

Alliance (O.) Machine Co.  
Atlas Car & Mfg. Co., Cleve.

**COLLARS—Spacing for Milling Cutters**

Detroit (Mich.) Stamping Co.

**COLLETS**

Rivett Lathe & Grinder Corp., Boston

**COMPRESSORS—Air**

Bury Compressor Co., Erie, Pa.  
De Laval Steam Turbine Co., Trenton, N. J.  
Ingersoll-Rand Co., 11 B'way, N. Y. C.  
Penna Pump & Compressor Co., Easton, Pa.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

**COMPRESSORS—Gas**

Bury Compressor Co., Erie, Pa.  
Penna Pump & Compressor Co., Easton, Pa.

**CONCRETE CONSTRUCTION**

Austin Co., The, Cleveland.

**CONCRETE REINFORCEMENT**

American Steel & Wire Co., Chicago.

**CONCRETE ROOFING TILE**

American Cement Tile Mfg. Co., 803 Oliver Bldg., Pgh.

**CONDENSERS—Surface & Jet**

Ingersoll-Rand Co., 11 B'way, N. Y. C.

**CONDUCTOR PIPE**

Newport (Ky.) Rolling Mill Co.

**CONTRACTORS—General**

Austin Co., The, Cleveland.

**CONTRACTORS' SUPPLIES—Second-Hand**

Albert & Davidson Pipe Corp., 2nd Ave., 50-51st St., Bklyn., N. Y.  
Albert Pipe Supply Co., Inc., Berry & N. 13th St., Bklyn., N. Y.

**CONTROLLERS—Electric Motor**

Clark Controller Co., The, Cleveland, O.  
Electric Controller & Mfg. Co., Cleve.

**CONTROLLERS—Temperature**

Bristol Co., Waterbury, Ct.  
Wilson-Macaulen Co., Inc., 735 E. 149th St., N. Y. C.

**CONVEYING AND ELEVATING MACHINERY**

Bartlett, C. O. & Snow Co., Cleveland.  
Portable Machinery Co., Clifton, N. J.

**CONVEYORS—Portable**

Portable Machinery Co., Clifton, N. J.

**COPING MACHINES**

Cleveland (O.) Punch & Shear Wks. Co.  
Pels, Henry, & Co., 90 West St., N. Y. C.

**CORUNDUM WHEELS—See Grinding Wheels****COTTERS AND KEYS—Spring**

Hindley Mfg. Co., Valley Falls, R. I.  
Hubbard, M. D., Spring Co., Pontiac, Mich.

**COUNTERBORES**

Cleveland (O.) Twist Drill Co.

**COUNTERS—Production**

Hart, R. E., Mfg. Co., Battle Creek, Mich.  
Veeder-Root, Inc., Hartford, Ct.

**COUNTERSHAFT—Cone, Variable Speed**

Evans Friction Cone Co., Newton Highlands, Mass.

**COUNTING MACHINES**

Hart, R. E., Mfg. Co., Battle Creek, Mich.  
Veeder-Root, Inc., Hartford, Ct.

**COUPLINGS—Air Hose**

Cleveland (O.) Pneumatic Tool Co., The.

**COUPLINGS—Flexible**

Boston Gear Works Sales Co., Norfolk Downs, Mass.  
Clark Controller Co., The, Cleveland, O.  
Poole Engng. & Mch. Co., Balto., Md.

**COUPLINGS—Friction Clutch**

Caldwell, W. E., Co., 200 Brandels St., Louisville, Ky.  
Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.

**COUPLINGS—Pipe**

Harrisburg (Pa.) Pipe & Pipe Bending Co.

**COUPLINGS—Shaft**

Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.  
Tomkins-Johnson Co., Jackson, Mich.

**CRANES—Crawling Tractor**

Conco Crane & Eng. Wks. Div. of H. D. Conkey & Co., 36 So. Jefferson St., Mendota, Ill.  
Harnischfeger Corp., Milwaukee.  
Orton Crane & Shovel Co., Chicago.

**CRANES—Electric Traveling**

Alliance (O.) Machine Co.  
Bedford (Ind.) Foundry & Machine Co.  
Box Crane & Hoist Corp., Phila.  
Browning, Victor R., & Co., Inc., Cleveland, Ohio.  
Cleveland Crane & Engng. Co., Wickliffe, O.

**CRANES—Crawling Tractor**

Conco Crane & Eng. Wks. Div. of H. D. Conkey & Co., 36 So. Jefferson St., Mendota, Ill.

**CRANES—Electric Traveling**

Euclid (O.) Crane & Hoist Co.  
Harnischfeger Corp., Milwaukee.  
Manning, Maxwell & Moore, Inc., 190 E. 42nd St., New York City.

**CRANES—Electric Traveling**

Maris Brothers, Inc., Phila.  
Morgan Engineering Co., Alliance, O.  
Payne, N. R., & Co., 25 Church St., N.Y.C.  
Reading (Pa.) Chain & Block Corp.  
Robbins & Myers, Inc., Springfield, Ohio.  
Roper Crane & Hoist Wks., Inc., Reading, Pa.

**CRANES—Electric Traveling**

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**CRANES—Gantry**

Cleveland Crane & Engng. Co., Wickliffe, O.  
Lakeside Bridge & Steel Co., 103 Villard Ave., Milwaukee, Wis.

**CRANES—Electric Traveling**

Manning, Maxwell & Moore, Inc., 190 E. 42nd St., New York City.  
Morgan Engineering Co., Alliance, O.  
Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**CRANES—Hand Power**

Armington Engineering Co., Euclid, O.  
Bedford (Ind.) Foundry & Machine Co.  
Box Crane & Hoist Corp., Phila.  
Cleveland Crane & Engng. Co., Wickliffe, O.

**CRANES—Electric Traveling**

Maris Brothers, Inc., Phila.  
Payne, N. R., & Co., 25 Church St., N.Y.C.  
Reading (Pa.) Chain & Block Corp.  
Robbins & Myers, Inc., Springfield, Ohio.

**CRANES—Electric Traveling**

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**CRANES—Locomotive**

Harnischfeger Corp., Milwaukee.  
Hyman-Michaels Co., Chicago, Ill.  
Ohio Locomotive Crane Co., Bucyrus, O.  
Orton Crane & Shovel Co., Chicago.





Canton (O.) Forge & Axle Co.  
Clapp, E. D., Mfg. Co., The, 86 S.  
Division St., Auburn, N. Y.  
Cleveland (O.) Hardware Co.  
Indianapolis (Ind.) Drop Forging Co.  
Keystone Forging Co., Northumberland, Pa.  
Laclede Steel Co., St. Louis, Mo.  
Milwaukee (Wis.) Forge & Mch. Co.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Paul, W. P., Co., Phila.  
Philadelphia (Pa.) Steel & Iron Co.  
Pittsburgh Forgings Co., Coraopolis, Pa.  
Queen City Forging Co., Cincl. O.  
Rockford (Ill.) Drop Forge Co.  
Storrs Drop Forging Co., East Spring-  
field, Mass.  
Union Switch & Signal Co., Swissvale, Pa.  
U. S. Body & Forging Co., Inc., Buf-  
falo, N. Y.  
Willcox, D. J., Mfg. Co., Mechanicsburg, Pa.  
Williams, J. H., & Co., Buffalo, N. Y.

**FORGINGS—Hammered**

Erie (Pa.) Forge Co.  
Machinery Forging Co., The, Cleveland, O.  
Vulcan Steam Forging Co., Buffalo, N. Y.

**FORGINGS—Hollow**

Erie (Pa.) Forge Co.  
Harrisburg (Pa.) Pipe & Pipe Bending  
Co.  
National Forge & Ordnance Co., Irvine,  
Pa.

**FORGINGS—Hydraulic Press, iron or  
steel**

Atlas Drop Forge Co., Lansing, Mich.  
Bethlehem (Pa.) Steel Co.  
Erie (Pa.) Forge Co.

**FORGINGS—Manganese Steel**

Manganese Steel Forge Co., Phila.

**FORGINGS—Stainless Steel**

Associated Alloy Steel Co., Inc., Cleve-  
land, O.

**FORGINGS—Upset**

Bethlehem (Pa.) Steel Co.  
Canton (O.) Forge & Axle Co.  
Neely Nut & Bolt Co., Pith.  
Rockford (Ill.) Drop Forge Co.

**FORMING AND COILING MACHINES**

Yoder Co., The, Cleveland.

**FOUNDRY EQUIPMENT AND SUP-  
PLIES**

Clifton Mchry. Co., Cincinnati.  
National Engineering Company, Chicago.  
Sty, W. W., Mfg. Co., Cleveland, O.

**FROGS AND SWITCHES—Railway**

Bethlehem (Pa.) Steel Co.

**FURNACES—Billet or Ingot Heating**

Hagan, Geo. J., Co., Pittsburgh.  
Swindell-Dressler Corp., Box 1753, Pith.

**FURNACES—Blast**

McKee, Arthur G., & Co., Cleve.  
Pennsylvania Engng. Wks., New Castle,  
Pa.

**FURNACES—Crucible**

Swindell-Dressler Corp., Box 1753, Pith.

**FURNACES—Electric Steel Melting**

American Bridge Co., 71 B'way, N. Y. C.  
Detroit (Mich.) Electric Furnace Co.  
Pittsburgh (Pa.) Electric Furnace Corp.  
Swindell-Dressler Corp., Box 1753, Pith.

**FURNACES—Ferguson**

Best, W. N., Corp., 295 5th Ave., N.Y.C.  
Chicago (Ill.) Flexible Shaft Co.  
Holcroft & Co., Detroit.  
Rockwell, W. S., Co., 50 Church St., N.Y.C.  
Swindell-Dressler Corp., Box 1753, Pith.  
Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Heat Treating, Automatic**

Hevi Duty Electric Co., Milwaukee.  
Holcroft & Co., Detroit.  
Hoeswell, W. S., Co., 50 Church St., N.Y.C.  
Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Heat Treating, Cyanide or  
Lead**

American Electric Furnace Co., Boston.  
Amer. Gas Furnace Co., Elizabeth, N. J.  
Chicago (Ill.) Flexible Shaft Co.  
Hevi Duty Electric Co., Milwaukee.  
Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Heat Treating, Electric**

American Electric Furnace Co., Boston.  
Electric Furnace Co., Salem, Ohio.  
Hagan, Geo. J., Co., Pittsburgh.  
Hevi Duty Electric Co., Milwaukee.  
Holcroft & Co., Detroit.  
Hoskins Mfg. Co., Detroit.  
Rockwell, W. S., Co., 50 Church St., N.Y.C.  
Strong, Carlisle & Hammond Co., Cleve.  
Swindell-Dressler Corp., Box 1753, Pith.  
Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Heat Treating, Oil or Gas**

Amer. Gas Furnace Co., Elizabeth, N. J.  
Anthony Co., The, Long Island City, N. Y.  
Best, W. N., Corp., 295 5th Ave., N.Y.C.

Chicago (Ill.) Flexible Shaft Co.  
Electric Furnace Co., Salem, Ohio.  
Hagan, Geo. J., Co., Pittsburgh.  
Holcroft & Co., Detroit.  
Hoeswell, W. S., Co., 50 Church St., N.Y.C.  
Smythe, S. R., Co., Inc., Pittsburgh.  
Strong, Carlisle & Hammond Co., Cleve.  
Swindell-Dressler Corp., Box 1753, Pith.

**FURNACES—High-Speed Steel**

American Electric Furnace Co., Boston.  
Chicago (Ill.) Flexible Shaft Co.  
Swindell-Dressler Corp., Box 1753, Pith.  
Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Non-Ferrous Melting**

American Electric Furnace Co., Boston.  
Detroit (Mich.) Electric Furnace Co.

**FURNACES—Open Hearth**

Criswell, James, Co., Pith.  
Laughlin, Alex., & Co., Pith.  
Smythe, S. R., Co., Inc., The, Pith.  
Stevens, Arthur L., Corp., Chicago.  
Swindell-Dressler Corp., Box 1753, Pith.

**FURNACES—Pack Heating Sheets**

Wean Engineering Co., Inc., The, War-  
ren, Ohio.

**FURNACES—Salt Bath**

Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.

**FURNACES—Wire, Annealing & Gal-  
vanizing**

Westinghouse Elec. & Mfg. Co., Mans-  
field, Ohio.  
Vaughn Mchry. Co., Cuyahoga Falls, O.

**FUSE METAL**

Platt Bros. & Co., The, Waterbury, Ct.

**GAGES—Compressed Gas**

Oxweld Acetylene Co., 30 E. 42nd St.,  
New York City.

**GAGES—Pressure and Vacuum**

Bristol Co., Waterbury, Ct.

**GAGES—Thread Lead**

Jones & Lamson Mch. Co., Springfield, Vt.

**GALVANIZING**

Cattle, Joseph P., & Bros., Phila.

**GALVANIZING PLANTS—For Sheets**

Aetna-Standard Eng. Co., Youngstown, O.  
United Engng. & Fdry. Co., Pith.

**GALVANIZING & TINNING EQUIP-  
MENT—Wire**

Vaughn Mchry. Co., Cuyahoga Falls, O.

**GAS—Exhausters**

Connorsville (Ind.) Blower Co., Inc., The,  
Roots, P. H. & F. M., Co., The, Con-  
nersville, Ind.  
Willbraham-Green Blower Co., Pottstown,  
Pa.

**GAS PRODUCERS**

Duff Patents Co., Inc., Pith.  
Swindell-Dressler Corp., Box 1753, Pith.  
Wood, R. D., & Co., Philadelphia.

**GAS WASHERS**

Brassett, H. A., & Co., Chicago.

**GASKETS—Felt**

Booth Felt Co., Inc., The, 477-478 19th  
St., Bklyn.  
Continental Felt Co., 890 B'way, N. Y. C.  
Felters Co., The, Boston, Mass.

**GATES—Blast**

Rockwell, W. S., Co., 50 Church St., N.Y.C.

**GATES—Fence**

American Steel & Wire Co., Chicago.

**GEAR CUTTING**

Akron (O.) Gear & Engng. Co.  
Bethlehem (Pa.) Steel Co.  
Dundore Mfg. Co., Reading, Pa.  
Earle Gear & Machine Co., Phila.  
Ferguson Gear Co., Gastonia, N. C.  
Gleason Wks., Rochester, N. Y.  
Grant Gear Works, Boston.  
Hartford (Ct.) Special Mchry. Co.  
Hindley Gear Co., Phila.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Works.  
Pittsburgh (Pa.) Rolla Corp.  
Taylor-Wilson Mfg. Co., McKees Rocks, Pa.

**GEAR CUTTING MACHINES**

Brown & Sharpe Mfg. Co., Prov., R. I.  
Gleason Wks., Rochester, N. Y.  
Whitton, D. E., Mch. Co., New London, Ct.

**GEAR HOBBING MACHINES**

Barber-Colman Co., Rockford, Ill.  
Gould & Eberhardt, Newark, N. J.

**GEAR PLANING MACHINES**

Gleason Wks., Rochester, N. Y.

**GEARS—Bevel**

Earle Gear & Machine Co., Phila.  
Ferguson Gear Co., Gastonia, N. C.

Gleason Wks., Rochester, N. Y.  
Grant Gear Works, Boston.  
Hartford (Ct.) Special Mchry. Co.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Works

**GEARS—Double Helical Cut**

De Laval Steam Turbine Co., Trenton, N. J.

**GEARS—Heat Treated**

Gleason Wks., Rochester, N. Y.

**GEARS—Herringbone**

Earle Gear & Machine Co., Phila.  
Philadelphia (Pa.) Gear Works

**GEARS—Machine Cut**

Gleason Wks., Rochester, N. Y.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.

**GEARS—Machine Molded**

Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Poole Engng. & Mch. Co., Balto., Md.

**GEARS—Non-Metallic**

Akron (O.) Gear & Engng. Co.  
Grant Gear Works, Boston.  
Horsburgh & Scott Co., Cleve.  
Philadelphia (Pa.) Gear Works

**GEARS—Rawhide**

Ferguson Gear Co., Gastonia, N. C.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.

**GEARS—Speed Reducing**

Cleveland (O.) Worm & Gear Co.  
Hindley Gear Co., Phila.  
Horsburgh & Scott Co., Cleve.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Works  
Poole Engng. & Mch. Co., Balto., Md.

**GEARS—Spiral**

Ferguson Gear Co., Gastonia, N. C.

**GEARS—Spur**

Boston Gear Works Sales Co., Norfolk  
Downs, Mass.  
Earle Gear & Mach. Co., Phila.  
Grant Gear Works, Boston.  
Hartford (Ct.) Special Mchry. Co.  
Horsburgh & Scott Co., Cleve.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Wks.

**GEARS—Worm**

Akron (O.) Gear & Engng. Co.  
Cleveland (O.) Worm & Gear Co.  
Ferguson Gear Co., Gastonia, N. C.  
Grant Gear Works, Boston.  
Hartford (Ct.) Special Mchry. Co.  
Hindley Gear Co., Phila.  
Horsburgh & Scott Co., Cleve.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Works

**GEARS—Worm, Speed Reducers**

Cleveland (O.) Worm & Gear Co.  
De Laval Steam Turbine Co., Trenton, N. J.  
Jones, W. A., Fdry. & Mch. Co., 4434  
W. Roosevelt Road, Chicago.  
Philadelphia (Pa.) Gear Works.

**GENERATORS—Acetylene**

Air Reducing Sales Co., 60 East 42nd  
St., N. Y. C.  
Oxweld Acetylene Co., 30 E. 42nd St.,  
New York City.

**GENERATORS—Electric, Second Hand**

Belyea Co., Inc., 147 W. 18th St., N.  
Y. C.  
Motor Repair & Mfg. Co., Cleveland, O.  
Zelicker in St. Louis, Mo.

**GLUE HEATERS**

Dart, E. M., Mfg. Co., Prov., R. I.

**GOGGLES—Welding**

Oxweld Acetylene Co., 30 E. 42nd St.,  
New York City.

**GOVERNORS—Air Compressor**

Westinghouse Traction Brake Co., Wil-  
merding, Pa.

**GRATING—Flooring, Sidewalk, Etc.**

Blaw-Knox Co., Pittsburgh.  
Hendrick Mfg. Co., Carbondale, Pa.

**GRATING—Steel**

Blaw-Knox Co., Pittsburgh.

**GRILLES—Metal Cane**

Diamond Mfg. Co., Wyoming, Pa.

**GRINDING AND POLISHING MA-  
CHINES**

Black & Decker Mfg. Co., The, Towson,  
Md.  
Bridgeport (Ct.) Safety Emery Wheel  
Co., Inc.  
Cahill, Geo. H., Lancaster, Pa.  
Cincinnati Electrical Tool Co., Cincinnati,  
Ohio.  
Safety Grinding Wheel & Mch. Co., The,  
Springfield, O.  
Springfield Mfg. Co., Bridgeport, Ct.  
Sterling Grinding Wheel Co., Tiffin, Ohio.

**GRINDING MACHINES—Cutter and  
Resmer**

Thompson Grinder Co., Springfield, O.

**GRINDING MACHINES—Cylindrical**

Brown & Sharpe Mfg. Co., Prov., R. I.

**GRINDING MACHINES—Die**

Signal & Keeler Mch. Wks., Edwards  
ville, Ill.

**GRINDING MACHINES—Die**

Gardner Mach. Co., Beloit, Wis.

**GRINDING MACHINES—Drill**

Sellers, William, & Co., Inc., Phila.

**GRINDING MACHINES—Flexible Shaft**

Keller Mechanical Engng. Corp., 78  
Washington St., Brooklyn, N. Y.

**GRINDING MACHINES—Machine  
Knives**

Atkins, E. C., & Co., Indianapolis, Ind.  
Bridgeport (Ct.) Safety Emery Wheel Co.,  
Inc.

**GRINDING MACHINES—Portable Elec-  
tric**

Standard Electrical Tool Co., The, Cincl.

**GRINDING MACHINES—Portable Pneu-  
matic**

Cleveland (O.) Pneumatic Tool Co., The.

**GRINDING MACHINES—Portable, Ra-  
dial Swing**

Mummert-Dixon Co., Hanover, Pa.

**GRINDING MACHINES—Second Hand**

Morey & Co., Inc., 410 Broome St.  
N. Y. C.

**GRINDING MACHINES—Spring**

Sleeper & Hartley, Inc., Worcester, Mass.

**GRINDING MACHINES—Surface**

Abrasive Machine Tool Co., F. Prov., R. I.  
Blanchard Mach. Co., Cambridge, Mass.  
Bridgeport (Ct.) Safety Emery Wheel Co.,  
Inc.

**GRINDING MACHINES—Swing Frame**

Black & Decker Mfg. Co., The, Towson,  
Md.  
Safety Grinding Wheel & Mch. Co., The,  
Springfield, O.

**GRINDING MACHINES—Tool**

LeBlond, R. K., Mch. Tool Co., Cinn.  
Sellers, William, & Co., Inc., Phila.  
Taylor & Fenn Co., Hartford, Ct.

**GRINDING MACHINES—Universal**

Elmmons Mach. Tool Corp., Albany, N. Y.  
Thompson Grinder Co., Springfield, O.

**GRINDING MACHINES—Vertical Sur-  
face**

Blanchard Mach. Co., Cambridge, Mass.

**GRINDING WHEEL DRESSERS AND  
CUTTERS**

Atkins, E. C., & Co., Indianapolis, Ind.  
Calder, Geo. H., Lancaster, Pa.  
Dickinson, Thos. L., 34 Gold St., N. Y. C.

**GRINDING WHEELS**

Atkins, E. C., & Co., Indianapolis, Ind.  
New York Belting & Packing Co., 91-93  
Chambers St., N. Y. C.  
Safety Grinding Wheel & Mch. Co., The,  
Springfield, O.  
Simonds Saw & Steel Co., Pittsburg,  
Mass.  
Springfield Mfg. Co., Bridgeport, Ct.  
Sterling Grinding Wheel Co., Tiffin, Ohio.

**GUTTERS**

Newport (Ky.) Rolling Mill Co.

**HACK SAW BLADES—See Saws—Hack  
Saw Blades****HACK SAW MACHINES**

Armstrong-Blum Mfg. Co., Chicago.  
Atkins, E. C., & Co., Indianapolis, Ind.  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Mch. Co., 1755 State St.,  
Racine, Wis.

**HAMMER RAMS**

Heppenstall Co., Pittsburgh.

**HAMMERS—Air**

Nazel Engrg. & Mch. Wks., Phila.

**HAMMERS—Belt or Motor Driven (Forg-  
ing)**

Chambersburg (Pa.) Engng. Co.  
Nazel Engrg. & Mch. Wks., Phila.

**HAMMERS—Belt or Motor Driven (Sheet  
Metal)**

Quickwork Co., The (Not Incorporated—  
H. Collier Smith, Owner), St. Mary's  
Ohio.  
Yoder Co., The, Cleveland.

**HAMMERS—Drop**

Chambersburg (Pa.) Engng. Co.  
Miner & Peck Dept. Farrel-Birmingham  
Co., Inc., Derby, Conn.  
Morgan Engng. Co., Alliance, O.  
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- HANGERS—Shaft**  
American Pulley Co., Philadelphia  
Hyman, Joseph, & Sons, Phila.  
Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.
- HARDNESS TESTING MACHINES**  
Shore Instrument & Mfg. Co., Inc., Jamaica, L. I., N. Y.  
Wilson-Maclean Co., Inc., 738 E. 143d St., N. Y. C.
- HARDWARE—Carriage and Wagon**  
Clapp, E. D., Mfg. Co., The, 86 S. Division St., Auburn, N. Y.
- HEADING MACHINES**  
National Mchry. Co., Tiffin, Ohio.
- HEAT TREATING**  
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- HELIUM**  
Linde Air Prods. Co., The, 30 E. 42nd St., New York City.
- HINGES—Wrought Brass Butt**  
Verder-Root, Inc., Hartford, Ct.
- HINGES—Wrought Steel & Brass**  
Hager, C., & Sons Hinge Mfg. Co., St. Louis, Mo.
- HOBS**  
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- HOISTING MACHINES**  
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Detroit (Mich.) Hoist & Mch. Co.  
Hanna Eng. Works, Chicago.  
Independent Pneumatic Tool Co., Chicago.  
Ingersoll-Rand Co., 11 B'way, N. Y. C.  
Ridgway, Craig & Son Co., Coatesville, Pa.
- HOISTS—Chain**  
American Monorail Co., The, Cleveland.  
Reading (Pa.) Chain & Block Corp.  
Robbins & Myers, Inc., Springfield, Ohio.
- HOISTS—Electric**  
American Engineering Co., Aramingo and Cumberland Sts., Philadelphia.  
American Monorail Co., The, Cleveland.  
Box Crane & Hoist Corp., Phila.  
Browning, Victor B., & Co., Inc., Cleveland, Ohio.  
Detroit (Mich.) Hoist & Mch. Co.  
Euclid (O.) Crane & Hoist Co.  
Harnischfeger Corp., Milwaukee.  
Mallory Machinery Corp., Baltimore.  
Maris Brothers, Inc., Phila.  
Payne, N. B., & Co., 23 Church St., N. Y. C.  
Reading (Pa.) Chain & Block Corp.  
Robbins & Myers, Inc., Springfield, Ohio.  
Rouser Crane & Hoist Works, Inc., Reading, Pa.  
Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.
- HOISTS—Electric Traveling**  
American Engineering Co., Aramingo and Cumberland Sts., Philadelphia.  
Euclid (O.) Crane & Hoist Co.  
Reading (Pa.) Chain & Block Corp.  
Robbins & Myers, Inc., Springfield, Ohio.  
Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.
- HOISTS—SKIP**  
Bartlett, C. O. & Snow Co., Cleveland.
- HOLDERS—Nipple**  
Curtis & Curtis Co., Bridgeport, Ct.
- HONING MACHINES**  
Barnes Drill Co., Inc., Rockford, Ill.
- HOOKS—Wire**  
Titchener, E. H., & Co., Binghamton, N. Y.
- HOOPS—Wire**  
American Steel & Wire Co., Chicago.
- HOOPS AND BANDS**  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Sharon (Pa.) Steel Hoop Co.
- HOSE—Air, Oil, Steam and Water**  
New York Belting & Packing Co., 91-93 Chambers St., N. Y. C.
- HOSE—Rubber, Oxy-acetylene**  
Oxweld Acetylene Co., 30 E. 42nd St., N. Y. C.
- HYDRANTS—Fire**  
Wood, R. D., & Co., Philadelphia.
- HYDRAULIC MACHINERY**  
Bethlehem (Pa.) Steel Co.  
Birdsboro (Pa.) Steel Fdry. & Mch. Co.  
Chambersburg (Pa.) Engrg. Co.  
Dudgeon, Richard, Inc., 24-26 Columbia St., New York City.  
Elmes, Chas. F., Engrg. Wks., Chicago.  
French Oil Mill Mchry. Co., Piqua, O.  
Lake Erie Engrg. Corp., Buffalo, N. Y.  
Morgan Engineering Co., Alliance, O.  
Southwark Fdry. & Mch. Co., Phila.  
Watson Stillman Co., 71 West St., N. Y. C.  
Wood, R. D., & Co., Philadelphia.
- HYPODERMIC NEEDLE TUBING**  
Summerill Tubing Co., Bridgeport, Montgomery County, Pa.
- HYDROCHLORIC ACID**  
Grasselli Chemical Co., Inc., The, Cleveland.
- ICE HANDLING MACHINERY**  
Lewis-Shepard Co., 122 Walnut St., Watertown Station, Boston.
- INDUCTION STEEL ELECTRIC**  
Heppenstall Co., Pittsburgh.
- INGOT MOLDS**  
Bethlehem (Pa.) Steel Co.  
Shenango Furnace Co., Pittsburgh.  
Valley Mould & Iron Corp., Hubbard, O.
- INGOTS—Aluminum**  
Aluminum Co. of America, Pittsburgh.  
Erdie Perforating Co., Rochester, N. Y.
- INGOTS—Phosphor Bronze**  
Phosphor Bronze Smelting Co., Phila.
- INSTRUMENTS—Recording**  
Bristol Co., Waterbury, Ct.
- IRON—Chain**  
Bethlehem (Pa.) Steel Co.
- IRON—(Genuine Open Hearth Iron)**  
Newport (Ky.) Rolling Mill Co.
- IRON—Stainless**  
Firth-Sterling Steel Co., McKeesport, Pa.
- IRON—Staybolt**  
Bethlehem (Pa.) Steel Co.  
Ryerson, Jos. T., & Son, Inc., Chicago.
- JACKS—Hydraulic**  
Dudgeon, Richard, Inc., 24-26 Columbia St., New York City.
- JIGS, FIXTURES, TOOL, ETC.—See Tools, Jigs, Fixtures, Etc.**
- KEYSEATING MACHINES**  
Baker Bros., Inc., Toledo, O.
- LATHE DOGS**  
West Steel Casting Co., The, Cleveland.  
Williams, J. H., & Co., Buffalo, N. Y.
- LATHES—Automatic**  
Bullard Co., The, Bridgeport, Ct.  
Jones & Lamson Mch. Co., Springfield, Vt.  
LeBlond, R. K., Mch. Tool Co., Cinn.  
Monarch Mch. Tool Co., The, Sidney, O.
- LATHES—Bench**  
Rivett Lathe & Grinder Corp., Boston.
- LATHES—Chucking**  
Jones & Lamson Mch. Co., Springfield, Vt.
- LATHES—Crankshaft**  
LeBlond, R. K., Mch. Tool Co., Cinn.
- LATHES—Engine**  
American Tool Works Co., Cinn.  
Consolidated Mch. Tool Corp. of America, Rochester, N. Y.  
Hill, Clarke & Co. of Chicago, 647 W. Washington Blvd., Chicago, Ill.  
LeBlond, R. K., Mch. Tool Co., Cinn.  
Lodge & Shipley Mch. Tool Co., Cinn.  
Monarch Mch. Tool Co., The, Sidney, O.  
Monarch Mchry. Co., Philadelphia, Pa.  
Osborne & Sexton Mchry. Co., Columbus, O.  
Reed-Prentice Corp., Worcester, Mass.  
Ryerson, Jos. T., & Son, Inc., Chicago.
- LATHES—Roll**  
United Engrg. & Fdy. Co., Pgh.
- LATHES—Second-Hand**  
Botwinik Bros., Inc., New Haven, Conn.  
Eastern Mchry. Co., Cincinnati.  
Miles Mchry. Co., Saginaw, W. S. Mich.  
Morey & Co., Inc., 410 Broome St., N. Y. C.  
Russell Mch. Co., Pgh.  
Simmons Mch. Tool Corp., Albany, N. Y.
- LATHES—Spinning**  
Adriance Mach. Works, Inc., 83 Richard St., Brooklyn, N. Y.
- LATHES—Turret**  
Bardons & Oliver, Cleve.  
Bullard Co., The, Bridgeport, Ct.  
Jones & Lamson Mch. Co., Springfield, Vt.
- LEAD BURNING**  
Gross Lead Burning & Coating Corp., Cleveland.
- LEAD BURNING APPARATUS**  
Oxweld Acetylene Co., 30 E. 42nd St., N. Y. C.
- LEAD-LINED APPARATUS**  
Gross Lead Burning & Coating Corp., Cleveland.
- LEVELING MACHINES**  
Wean Engineering Co., Inc., The, Warren, Ohio.
- LEVELS—Precision Machine Aligning**  
Universal Boring Mch. Co., Hudson, Mass.
- LINING—Converter**  
Edge Hill Silica Rock Co., New Brunswick, N. J.  
Harbison-Walker Refractories Co., Pgh.
- LINING—Cupola**  
Edge Hill Silica Rock Co., New Brunswick, N. J.  
Harbison-Walker Refractories Co., Pgh.
- LIQUIDATORS**  
Llewellyn, Thomas J., & Co., Pgh.
- LOCK WASHER MACHINERY**  
Sleeper & Hartley, Inc., Worcester, Mass.
- LOCOMOTIVES—Electric**  
Atlas Car & Mfg. Co., Cleve.
- LOCOMOTIVES—Gasoline**  
Plymouth (O.) Locomotive Wks.
- LOCOMOTIVES—Industrial**  
Plymouth (O.) Locomotive Wks.
- LOCOMOTIVES—Steam**  
American Locomotive Co., 30 Church St., N. Y. C.
- LOCOMOTIVES—Storage Battery**  
Atlas Car & Mfg. Co., Cleve.
- LUGS—Terminal**  
Wolverine Tube Co., Detroit.
- LUMBER—Crescoted or Zinc Treated**  
Century Wood Preserving Co., Pgh.
- MACHINE WORK**  
Ans. Max, Mach. Co., The, Bridgeport, Conn.  
Cavagnaro, John J., Harrison, N. J.  
Cowdrey, C. L., Machine Co., 30 Summer St., Fitchburg, Mass.  
Franklin Mch. Co., Providence, R. I.  
General Mach. Works, York, Pa.  
Porter Mch. Co., Inc., Jersey City, N. J.  
Roryford (Pa.) Fdry. & Mch. Co., Inc.
- MACHINERY DEALERS**  
Cooper Mchry. Co., Youngstown, Ohio.  
Delta Equipment Co., Philadelphia.  
Donahue Steel Products Co., 1609 West 7th St., Chicago.  
Dony, D. E., Rochester, N. Y.  
Eastern Mchry. Co., Cincinnati.  
Estley, E. L., Mchry. Co., Chicago.  
Froment & Co., 150 Bank St., N. Y. C.  
General Mchry. Corp., Boston, Mass.  
Hill, Clarke & Co. of Chicago, 647 W. Washington Blvd., Chicago, Ill.  
Hyman-Michaels Co., Chicago, Ill.  
Johnson, Wm. C., & Sons Mchry. Co., St. Louis, Mo.  
MacCabe, T. B., Philadelphia, Pa.  
Marr-Galbreath Mchry. Co., Pgh.  
Miles Mchry. Co., Saginaw, W. S. Mich.  
Monarch Mchry. Co., Philadelphia.  
Morey & Co., Inc., 410 Broome St., N. Y. C.  
Noble Mchry. Co., Inc., 297 Centre St., N. Y. C.  
O'Brien Mchry. Co., Phila.  
Prussian, M., Mchry. Co., Detroit.  
Reliance Mchry. Sales Co., Pgh.  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Simmons Mach. Tool Corp., Albany, N. Y.  
Smith, H. A., Mchry. Co., Syracuse, N. Y.  
Wachs-Gregg & Co., Chicago.  
White, A. D., Mchry. Co., Chicago.  
Zeeve, Alex., Woolworth Bldg., N. Y. C.  
Zelnicke in St. Louis, Mo.
- MACHINISTS—Contracting**  
Konigson, Otto, Mfg. Co., Cleve.
- MAGNESITE—Brick or Dead Burnt**  
Harbison-Walker Refractories Co., Pgh.  
Levino, E. J., & Co., Phila.
- MAGNETS—Electro Industrial**  
Dings Magnetic Separator Co., Milwaukee.
- MAGNETS—Lifting**  
Electric Controller & Mfg. Co., Cleve.  
Ohio Electric Mfg. Co., Cleve.
- MANHOLE STEPS**  
Nictown Plate Washer Co., Inc., Phila.
- MANIFOLDS—Oxygen**  
Oxweld Acetylene Co., 30 E. 42nd St., N. Y. C.
- MANUFACTURING SITES**  
Fort Worth (Texas) Chamber of Commerce.
- METAL SPECIALTIES**  
American Pulley Co., Philadelphia  
Amer. Spring & Mfg. Corp., Holley, Mich.  
Bossert Corp., The, Utica, N. Y.  
Cuyahoga Spring Co., Cleve.  
Detroit (Mich.) Metal Specialty Corp.  
Globe Mach. & Stpg. Co., Cleve.  
Hassall, John, Inc., Clay & Oakland Sts., Brooklyn, N. Y.  
Torrington (Ct.) Co.  
Worcester (Mass.) Pressed Steel Co.  
Worcester (Mass.) Stamped Metal Co.  
York (Pa.) Corrugating Company.
- METALINE**  
Rhoades, R. W., Metaline Co., Inc., Long Island City, N. Y.
- MICA SCHIST**  
Edge Hill Silica Rock Co., New Brunswick, N. J.
- MILLING MACHINES—Horizontal**  
Consolidated Mch. Tool Corp. of America, Rochester, N. Y.  
Kearney & Trecker Corp., Milwaukee.
- MILLING MACHINES—Plain**  
Kearney & Trecker Corp., Milwaukee.  
Ryerson, Jos. T., & Son, Inc., Chicago.
- MILLING MACHINES—Planer Type**  
Sellers, William, & Co., Inc., Phila.
- MILLING MACHINES—Second-Hand**  
Botwinik Bros., Inc., New Haven, Conn.  
Eastern Mchry. Co., Cincinnati.  
Simmons Mach. Tool Corp., Albany, N. Y.
- MILLING MACHINES—Universal**  
Brown & Sharpe Mfg. Co., Provt., R. I.  
Ryerson, Jos. T., & Son, Inc., Chicago.
- MILLING MACHINES—Vertical**  
Reed-Prentice Corp., Worcester, Mass.
- MIXING MACHINES—Sand**  
Bartlett, C. O. & Snow Co., Cleveland.  
National Engineering Co., Chicago.
- MOLDING MACHINES—Jarring (Air)**  
Arcade Mfg. Co., Freeport, Ill.  
Herman Pneumatic Mch. Co., Pittsburgh.  
Nicholls, Wm. H., Co., Inc., 91st Ave. & 126th St., Richmond Hill, N. Y.
- MOLDING MACHINES—Roller (Hand and Power Operated)**  
Arcade Mfg. Co., Freeport, Ill.  
Herman Pneumatic Mch. Co., Pittsburgh.
- MOLDING MACHINES—Sand Throwing**  
Beardsley & Piper Co., Chicago, Ill.
- MOLDING MACHINES—Stripping Plate**  
Nicholls, Wm. H., Co., Inc., 91st Ave. & 126th St., Richmond Hill, N. Y.
- MONORAIL SWITCHES AND TURN-TABLES**  
Reading (Pa.) Chain & Block Corp.
- MONORAIL—Overhead**  
American Monorail Co., The, Cleveland.  
Reading (Pa.) Chain & Block Corp.
- MOTORS—Electric**  
Allis-Chalmers Mfg. Co., Milwaukee.  
Ohio Electric Mfg. Co., Cleve.  
Robbins & Myers, Inc., Springfield, Ohio.
- MOTORS—Electric, Second-Hand**  
Belyea Co., Inc., 147 W. 18th St., N. Y.  
Botwinik Bros., Inc., New Haven, Conn.  
Delta Equipment Co., Philadelphia.  
Motor Repair & Mfg. Co., Cleveland, O.  
O'Brien Mchry. Co., Phila.  
Sachsenmaier, Geo., Co., Phila., Pa.
- MOULDINGS—Cold Rolled**  
Britesun, Inc., Chicago.
- NAILS—Cement Coated**  
American Steel & Wire Co., Chicago.
- NAILS—Galvanized**  
American Steel & Wire Co., Chicago.
- NAILS—Wire**  
American Steel & Wire Co., Chicago.  
Bethlehem (Pa.) Steel Co.  
Wheeling (W. Va.) Steel Corp.  
Youngstown (O.) Sheet & Tube Co.
- NEON**  
Linde Air Prods. Co., The, 30 E. 42nd St., New York City.
- NICKEL ANODES—Rolled or Cast**  
Seymour (Ct.) Mfg. Co.
- NITRIC ACID**  
Grasselli Chemical Co., Inc., The, Cleveland.



**NITROGEN**

Air Reduction Sales Co., 60 East 42nd St., N. Y. C.  
Linde Air Prods. Co., The, 30 E. 42nd St., New York City.

**NUT MAKING MACHINERY**

Budd-Ranney Eng. Co., The, Columbus, O.  
National Mchry. Co., Tiffin, Ohio.

**NUTS—Acorn**

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Western Screw Products Co., St. Louis.

**NUTS—Castellated**

National Acme Co., The, Cleveland.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Western Screw Products Co., St. Louis.

**NUTS—Cold Finished**

Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Pittsburgh (Pa.) Screw & Bolt Corp.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**NUTS—Hot Pressed**

Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Pittsburgh (Pa.) Screw & Bolt Corp.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**NUTS—Milled**

Ferry Cap & Set Screw Co., Cleveland.  
National Acme Co., The, Cleveland.  
Pittsburgh (Pa.) Screw & Bolt Corp.

**NUTS—Semi-Finished**

Pittsburgh (Pa.) Screw & Bolt Corp.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**NUTS—Thumb Malleable**

Philadelphia (Pa.) Hardware & Malleable Iron Wks., Inc.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

**ORES—Chrome, Lump and Ground**

Harbison-Walker Refractories Co., Pith.  
Lavino, E. J., & Co., Phila.

**ORES—Iron**

Cleveland (O.) Cliffs Iron Co.  
Hanna Furnace Corp., The, Detroit, Mich.  
Pilling & Co., Inc., Phila.  
Rogers Brown & Crocker Bros., Inc., 21 East 40th St., N. Y. C.  
Shenango Furnace Co., Pittsburgh.

**ORES—Manganese**

Lavino, E. J., & Co., Phila.

**OVENS—Baking**

Drying Systems, Inc., Chicago, Ill.  
Gehrich Oven Co., Inc., Long Island City, N. Y.  
Westinghouse Elec. & Mfg. Co., Mansfield, Ohio.  
Young Bros. Co., Detroit.

**OVENS—Core and Mold**

Drying Systems, Inc., Chicago, Ill.  
Gehrich Oven Co., Inc., Long Island City, N. Y.  
Holcroft & Co., Detroit.  
Westinghouse Elec. & Mfg. Co., Mansfield, Ohio.  
Young Bros. Co., Detroit.

**OVENS—Drying**

Detroit (Mich.) Sheet Metal Wks.  
Drying Systems, Inc., Chicago, Ill.  
Westinghouse Elec. & Mfg. Co., Mansfield, Ohio.  
Young Bros. Co., Detroit.

**OVENS—Enameling and Japanning**

Drying Systems, Inc., Chicago, Ill.  
Gehrich Oven Co., Inc., Long Island City, N. Y.  
Westinghouse Elec. & Mfg. Co., Mansfield, Ohio.  
Young Bros. Co., Detroit.

**OVERHEAD CARRYING EQUIPMENT**

—See Monorail—Overhead

**OXYGEN**

Air Reduction Sales Co., 60 East 42nd St., N. Y. C.  
Linde Air Prods. Co., The, 30 E. 42nd St., New York City.

**OXY-ACETYLENE—Shape-cutting**

Machines  
Oxweld Acetylene Co., 30 E. 42nd St., N. Y. C.

**PACKING—Leather**

Watson-Stillman Co., 71 West St., N. Y.

**PAINTS—Metal Protective**

Semet-Solway Co., 61 E. 42nd St., N. Y. C.

**PANS—Grinding**

National Engineering Co., Chicago.

**PATENT ATTORNEYS**

Boyle, John, Jr., Washington, D. C.

**PATENTING EQUIPMENT—Wire**

Vaughn Mchry. Co., Cuyahoga Falls, O.

**PATTERNS—Wood and Metal**

Bascom & Co., Troy, N. Y.

**PERFORATED METAL**

Chicago Perforating Co., Chicago, Ill.  
Diamond Mfg. Co., Waukegan, Pa.  
Erdle Perforating Co., Rochester, N. Y.  
Harrington & King Perforating Co., Chl.  
Hendrick Mfg. Co., Carbondale, Pa.  
Mundt, Chas., & Sons, Jersey City, N. J.

**PHOSPHOR—Copper**

Phosphor Irons Smelting Co., Phila.

**PHOSPHORIZERS**

McCullough-Dalzell Crucible Co., Pith.

**PICKLING COMPOUNDS**

American Chemical Paint Co., Ambler, Pa.

**PICKLING MACHINES**

Aetna-Standard Eng. Co., Youngstown, O.  
Ransohoff, N., Inc., Cincinnati, O.

**PIG IRON**

Alan Wood Steel Co., Conshohocken, Pa.  
Bethlehem (Pa.) Steel Company.  
Chateaugay Ore & Iron Co., 26 Liberty St., N. Y. C.  
Cleveland (O.) Cliffs Iron Co.  
Hanna Furnace Corp., The, Detroit, Mich.  
Lavino, E. J., & Co., Phila.  
Pilling & Co., Inc., Phila.  
Rogers Brown & Crocker Bros., Inc., 21 East 40th St., N. Y. C.  
Shenango Furnace Co., Pittsburgh.  
Superior Charcoal Iron Co., Grand Rapids, Mich.  
Walter-Wallingford & Co., Cincinnati.

**PIG IRON—Charcoal**

Superior Charcoal Iron Co., Grand Rapids, Mich.

**PIG IRON—Low Phosphorus**

Chateaugay Ore & Iron Co., 26 Liberty St., N. Y. C.

**PILING—Steel Sheet**

Bethlehem (Pa.) Steel Company.

**PINS—Airbrake**

Champion Rivet Co., Cleveland, Ohio.

**PINS—Chain**

Champion Rivet Co., Cleveland, Ohio.

**PINS—Coupler**

Champion Rivet Co., Cleveland, Ohio.

**PIPE—Cast Iron, B. & S. and Flanged**

Wood, R. D., & Co., Philadelphia.

**PIPE—Chrome Alloy**

Babcock & Wilcox Tube Co., 85 Liberty St., N. Y. C.

**PIPE—Forged Steel**

Kellogg, M. W., Co., The, 225 B'dway., N. Y. C.

**PIPE—Genuine Wrought Iron**

Keating, E. F., Co., 452 Water St., N. Y. C.

**PIPE—New and Second-Hand**

Albert & Davidson Pipe Corp., 2nd Ave., 50-51st St., Bklyn., N. Y.  
Albert Pipe Supply Co., Inc., Berry and N. 15th St., Bklyn., N. Y.  
Atlantic Steel & Pipe Corp., Stewart Ave. and Meadow St., Brooklyn, N. Y.  
Greenpoint Iron & Pipe Co., Inc., 187-197 Maspeth Ave., Bklyn., N. Y.  
L. & D. Pipe Supply Co., Inc., 1100 Flushing Ave., Bklyn., N. Y.

**PIPE—Riveted Steel**

Abendroth & Root Mfg. Co., Newburgh, N. Y.

**PIPE—Seamless Steel**

Babcock & Wilcox Tube Co., 85 Liberty St., N. Y. C.

**PIPE—Spiral Riveted**

Abendroth & Root Mfg. Co., Newburgh, N. Y.

**PIPE—Standard, Black and Galvanized**

Bethlehem (Pa.) Steel Co.  
Keating, E. F., Co., 452 Water St., N. Y. C.  
Wheeling (W. Va.) Steel Corp.  
Youngstown (O.) Sheet & Tube Co.

**PIPE—Wrought Iron**

Keating, E. F., Co., 452 Water St., N. Y. C.

**PIPE BENDING MACHINES**

Newbold, R. S., & Son Co., Norristown, Pa.

**PIPE CUTTING MACHINES**

Murphy Mch. & Tool Co., 951 Porter St., Detroit.

**PIPE CUTTING AND THREADING MACHINES**

Aetna-Standard Eng. Co., Youngstown, O.  
Bignall & Keeler Mch. Wks., Edwardsville, Ill.

Cox & Sons Co., The, Bridgeton, N. J.  
Curtis & Curtis Co., 331 Garden St., Bridgeport, Ct.  
Jarecki Mfg. Co., Erie, Pa.  
Landis Mach. Co., Inc., Waynesboro, Pa.  
Murphy Mach. & Tool Co., 951 Porter St., Detroit.  
Pipe Machry. Co., The, Cleveland.  
Saunders, D., Sons, Yonkers, N. Y.  
Taylor-Wilton Mfg. Co., McKees Rocks, Pa.

**PIPE FITTINGS**

Jarecki Mfg. Co., Erie, Pa.  
Kellogg, M. W., Co., The, 225 B'dway., N. Y. C.

**PISTON RODS**

Heppenstall Co., Pittsburgh.

**PLANING MACHINES—Metal**

American Tool Works Co., Cincinnati.  
Cleveland (O.) Planer Co., The.  
Consolidated Mch. Tool Corp. of America  
Rochester, N. Y.  
Gray, G. A., Co., Cincinnati.  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Sellers, William, & Co., Inc., Phila.

**PLANING MACHINES—Open Side**

Cleveland (O.) Planer Co., The.  
Gray, G. A., Co., Cincinnati.

**PLANING MACHINES—Second Hand**

Miss Mchry. Co., Saginaw, W. B., Mich.

**PLATERS' CLEANING COMPOUND**

American Chemical Paint Co., Ambler, Pa.  
Oakite Products, Inc., 22 Thames St., N. Y.

**PLATES—Fellies**

Wrought Washer Mfg. Co., Milwaukee.

**PLATES—Floor or Cellar Door**

Alan Wood Steel Co., Conshohocken, Pa.  
American Pressed Steel Co., Phila.  
Carnegie Steel Co., Pith.  
Central Iron & Steel Co., Harrisburg, Pa.

**PLATES—Iron or Steel**

Alan Wood Steel Co., Conshohocken, Pa.  
American Pressed Steel Co., Phila., Pa.  
Bethlehem (Pa.) Steel Company.  
Carnegie Steel Co., Pittsburgh.  
Central Iron & Steel Co., Harrisburg, Pa.  
Illinois Steel Co., Chicago, Ill.  
Newport (Ky.) Rolling Mill Co.  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Youngstown (O.) Sheet & Tube Co.

**PLATES—Manganese Steel**

Manganese Steel Forge Co., Phila.

**PLATFORMS—Skid**

Lewis-Shepard Co., 122 Walnut St., Watertown Station, Boston.

**PLATING**

Cheney, S., & Son, Manlius, N. Y.

**PLUGS—Core Hole**

Hubbard, M. D., Spring Co., Pontiac, Mich.

**POINTING & THREADING MACHINERY**

Economy Engng. Co., The, Willoughby, O.

**POLISHING & BUFFING MACHINES**

Cincinnati Electrical Tool Co., Cincinnati, Ohio.  
Divine Brothers Co., Utica, N. Y.

**POLISHING WHEELS**

Divine Brothers Co., Utica, N. Y.

**POSTS—Steel Fence**

American Steel & Wire Co., Chicago.

**POWER TRANSMITTING MACHINERY**

American Pulley Co., Philadelphia  
Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.

**PREHEATERS—Air**

Blaw-Knox Co., Pittsburgh.

**PRESS ATTACHMENTS**

Littell, F. J., Mch. Co., Chicago.

**PRESSED METAL PARTS**

Champion Sheet Metal Co., Inc., Cortland, N. Y.  
Detroit (Mich.) Metal Specialty Corp.

**PRESSED STEEL PARTS**

American Pulley Co., Philadelphia  
Bossert Corp., The, Utica, N. Y.  
Detroit (Mich.) Metal Specialty Corp.  
Metal Specialty Co., 1533 W. Sixth St., Cincinnati.  
New England Pressed Steel Co., 1 Washington Ave., Natick, Mass.  
Parish Pressed Steel Co., Reading, Pa.  
Pennsylvania Car Co., Kansas City, Kans.  
Worcester (Mass.) Pressed Steel Co.  
York (Pa.) Corrugating Co.

**PRESSES—Bending or Straightening**

Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Die**

Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Drop**

Bliss, E. W. Co., 53rd St. & 2nd Ave., Brooklyn, N. Y.  
Standard Machinery Co., Auburn, N. Y.

**PRESSES—Extrusion**

Robertson, John, Co., 123 Water St., Brooklyn, N. Y.  
Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Foot**

Adrian Mach. Works, Inc., 82 Richards St., Bklyn., N. Y.  
Baird Machine Co., Bridgeport, Ct.  
Shuster, F. B., Co., New Haven, Ct.  
Taylor & Fenn Co., Hartford, Ct.

**PRESSES—Forging**

Lucas Mch. Tool Co., Cleve.  
Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Forging**

Morgan Engineering Co., Alliance, O.  
United Engineering & Fdry. Co., Pith.  
Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Forming and Bending**

Cincinnati (O.) Shaper Co., The.  
Dreis & Krump Mfg. Co., Chicago.  
Streine Tool & Mfg. Co., New Bremen, O.

**PRESSES—Hot and Cold Plate**

Watson-Stillman Co., 71 West St., N. Y.

**PRESSES—Hydraulic**

Bethlehem (Pa.) Steel Co.  
Birdsboro (Pa.) Steel Fyry. & Mch. Co.  
Elmes, Chas. F., Eugr. Works, Chicago.  
Farrel-Birmingham Co., Inc., Ansonia, Conn.  
French Oil Mill Machry. Co., Piqua, O.  
Galland-Henning Mfg. Co., Milwaukee.  
Lake Erie Engng. Corp., Buffalo, N. Y.  
Morgan Engineering Co., Alliance, O.  
Oilgear Co., The, 659 Park St., Milwaukee.  
Robertson, John, Co., 123 Water St., Brooklyn, N. Y.  
Watson-Stillman Co., 71 West St., N. Y.  
Wood, R. D., & Co., Philadelphia.

**PRESSES—Multiple Plunger**

Waterbury (Ct.) Farrel Fdry. & Mch. Co.

**PRESSES—Power**

Adrian Machine Works, Inc., 82 Richards St., Bklyn., N. Y.  
Baird Machine Co., Bridgeport, Ct.  
Bliss, E. W. Co., 53rd St. & 2nd Ave., Brooklyn, N. Y.  
Cincinnati (O.) Shaper Co., The.  
Cleveland (O.) Punch & Shear Wks. Co.  
Ferracute Machine Co., Bridgeport, N. J.  
Hyman, Joseph, & Sons, Phila.  
Loy & Nawrath Div. Farrel-Birmingham Co., Inc., Derby, Conn.  
Manville, E. J., Mch. Co., Waterbury, Ct.  
Minster (O.) Machine Co.  
New Albany (Ind.) Mch. Mfg. Co.  
Niagara Machine & Tool Works, Buffalo, N. Y.  
Ohl, George A., & Co., Inc., Newark, N. J.  
Pelt, Henry, & Co., 90 West St., N. Y. C.  
Standard Machinery Co., Auburn, N. Y.  
Toledo (O.) Mch. & Tool Co.  
V & O Press Co., Hudson, N. Y.  
Waterbury (Ct.) Farrel Fdry. & Mch. Co.  
Zeh & Hahnemann Co., Newark, N. J.

**PRESSES—Reeling and Curragating**

Streine Tool & Mfg. Co., New Bremen, O.

**PRESSES—Scrap Bundling**

Galland-Henning Mfg. Co., Milwaukee.  
Standard Machinery Co., Auburn, N. Y.

**PRESSES—Trimming**

Toledo (O.) Mch. & Tool Co.

**PULLEYS—Belt (Pressed Steel)**

American Pulley Co., Philadelphia

**PULLEYS—Friction Clutch**

Caldwell, W. E., Co., 280 Brandels St., Louisville, Ky.  
Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.

**PULLEYS—Iron, Solid and Split**

Caldwell, W. E., Co., 280 Brandels St., Louisville, Ky.  
Jones, W. A., Fdry. & Mch. Co., 4434 W. Roosevelt Road, Chicago.

**PULLEYS—Magnetic**

Dings Magnetic Separator Co., Milwaukee.  
Magnetic Mfg. Co., Milwaukee.

**PULLEYS—Motor and Machine (Compressed Spruce)**

American Pulley Co., Philadelphia.

**PULLEYS—Steel, Rim Solid and Split**

Hyman, Joseph, & Sons, Phila.

**PULVERIZERS**

American Pulverizer Co., St. Louis, Mo.  
Bartlett, C. O. & Snow Co., Cleveland.  
Bethlehem (Pa.) Steel Co.

**PULVERIZERS—Coal**

Bartlett, C. O. & Snow Co., Cleveland.  
Bethlehem (Pa.) Steel Co.

**PUMPS—Boiler Feed**

Manistee (Mich.) Iron Works Co.  
Merrie Mch. Works, Baldwinville, N. Y.

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**PUMPS—Centrifugal**

Allis-Chalmers Mfg. Co., Milwaukee.  
De Laval Steam Turbine Co., Trenton, N. J.  
Ingersoll-Rand Co. (Cameron) 11 B'way,  
N. Y. C.  
Manitowoc (Mich.) Iron Works Co.  
Morris Mach. Works, Baldwinville, N. Y.  
Penna. Pump & Compressor Co., Easton,  
Pa.

**PUMPS—Hydraulic**

Elmes, Chas. F., Engrg. Works, Chicago.  
Galland-Henning Mfg. Co., Milwaukee.  
LaPointe Mch. Tool Co., The, Hudson,  
Mass.  
Watson-Stillman Co., 71 West St., N. Y.  
Wood, R. D., & Co., Philadelphia.

**PUMPS—Rotary Positive**

Connorsville (Ind.) Blower Co., Inc., The.  
Roots, P. H. & F. M., Co., The, Con-  
nersville, Ind.  
Wilbraham-Green Blower Co., Pitts-  
town, Pa.

**PUMPS—Vacuum**

Bury Compressor Co., Erie, Pa.  
Piper & Textile Mchry. Co., The, San-  
dusky, Ohio.  
Penna. Pump & Compressor Co., Easton,  
Pa.

**PUNCHES—Pneumatic**

Hanna Engineering Wks., Chicago.

**PUNCHES AND DIES**

Cleveland (O.) Punch & Shear Wks. Co.  
Marchant, Geo. F., Co., Chicago.

**PUNCHING AND SHEARING MA-  
CHINES**

Realty Mch. & Mfg. Co., Hammond, Ind.  
Bertach & Co., Cambridge City, Ind.  
Buffalo (N. Y.) Forge Co., 492 B'way,  
Cleveland (O.) Punch & Shear Wks. Co.  
Consolidated Mch. Tool Corp. of America,  
Rochester, N. Y.  
Hendley & Whittemore Co., Beloit, Wis.  
Pels, Henry, & Co., 90 West St., N. Y. C.  
Quickwork Co., The (Not Incorporated—  
H. Collier Smith, Owner) St. Marys, O.  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Seymour, David H., & Sons, Inc., Ft. of  
51st St., Brooklyn, N. Y.  
Thomas Spacing Mch. Co., Pith.  
Whitney Metal Tool Co., Rockford, Ill.

**PURIFIER—Steel**

Densite Corp. of America, Pittsburgh

**PURIFIERS—Oil**

De Laval Steam Turbine Co., Trenton,  
N. J.  
National Acme Co., The, Cleveland.

**PURIFIERS—Steam**

Blaw-Knox Co., Pittsburgh.

**PYROMETERS—Indicating**

Bristol Co., Waterbury, Ct.  
Hoskins Mfg. Co., Detroit.  
Wilson-Maclean Co., Inc., 738 E. 143d  
St., N. Y. C.

**RACKS—Industrial Storage**

Lewis-Shepard Co., 122 Walnut St.,  
Watertown Station, Boston.

**RAIL BONDS**

American Steel & Wire Co., Chicago.

**RAIL SPICE BARS**

Ames, W., & Co., Jersey City, N. J.

**RAILS**

Bethlehem (Pa.) Steel Co.  
Cohen, Louis, & Son, Wilkes-Barre, Pa.  
Foster, L. B., Co., Pittsburgh.  
Frank, M. K., Pittsburgh.  
Illinois Steel Co., Chicago, Ill.  
Morrison Railway Supply Corp., Buffalo,  
N. Y.  
Robinson & Orr, Pittsburgh.

**RAILS—Relaying**

Continental Iron & Steel Co., 33 Bester  
St., N. Y. C.  
Foster, L. B., Co., Pittsburgh.  
Frank, M. K., Pittsburgh, Pa.  
Perry, Buxton, Doane Co., Boston.  
Sherwood, E. C., 48 Church St., N. Y. C.  
Zelicker in St. Louis, Mo.

**RAILWAY EQUIPMENT AND SUP-  
PLIES**

Foster, L. B., Co., Pittsburgh.  
Morrison Railway Supply Corp., Buffalo,  
N. Y.  
Zelicker in St. Louis, Mo.

**REAMERS—Adjustable and Expansion**

Barber-Colman Co., Rockford, Ill.  
Brubaker, W. L., & Bros. Co., 50 Church  
St., N. Y. C.  
Cleveland (O.) Twist Drill Co.  
Union Twist Drill Co., Athol, Mass.

**REFRACTORIES—See Brick—Cement—  
Facing Clay and Fire Clay****REGRINDING METAL SAWS**

Birmingham (Ala.) Grinding Works.

**REGULATORS—Compressed Gas**

Oswald Acetylene Co., 30 E. 42nd St.,  
N. Y. C.

**RINGS—Iron or Steel**

Akron-Seattle Co., Akron, Ohio.  
Edgewater Steel Co., Pittsburgh.  
Heppenstall Co., Pittsburgh.  
Milwaukee (Wis.) Forge & Mch. Co.  
Vulcan Steam Forging Co., Buffalo, N. Y.

**RINGS—Welded**

American Welding & Mfg. Co., War-  
ren, O.

**RIVET MAKING MACHINERY**

Acme Machinery Co., Cleve.  
Manville, E. J., Mach. Co., Waterbury, Ct.  
National Mchry. Co., Tiffin, Ohio.

**RIVET SETS**

Cleveland (O.) Punch & Shear Wks. Co.  
Hunter, Saw & Mch. Co., 5660 Butler  
St., Pith.  
Marchant, Geo. F., Co., Chicago.

**RIVETING MACHINES**

Allen, John F., Co., 372 Gerard Ave., N. Y.  
Buffalo (N. Y.) Forge Co., 492 B'way,  
Hanna Engrg. Works, Chicago.  
Shuster, F. B., Co., New Haven, Conn.  
Watson-Stillman Co., 71 West St., N. Y.  
Wood, R. D., & Co., Philadelphia.

**RIVETS**

Bethlehem (Pa.) Steel Co.  
Champion Rivet Co., Cleveland, Ohio.  
Neely Nut & Bolt Co., Pith.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Plume & Atwood Mfg. Co., Waterbury,  
Conn.  
Progressive Mfg. Co., Torrington, Ct.  
Russell, Burdell & Ward Bolt & Nut  
Co., Port Chester, N. Y.  
Ryerson, Jos. T., & Son, Inc., Chicago.

**RODS—Aluminum**

Aluminum Co. of America, Pittsburgh.

**RODS—Drill**

Globe Wire Company, Div. of the Fifth  
Sterling Steel Co., Sharpsburg, Pa.

**RODS—Nickel Silver**

Seymour (Ct.) Mfg. Co.

**RODS—Phosphor Bronze**

Phosphor Bronze Smelting Co., Phila.  
Seymour (Ct.) Mfg. Co.

**RODS—Welding**

Air Reduction Sales Co., 60 East 42nd  
St., N. Y. C.  
Oswald Acetylene Co., 30 E. 42nd St.,  
New York City.

**RODS—Welding, Manganese Steel**

Manganese Steel Forge Co., Phila.

**RODS—Wire**

American Steel & Wire Co., Chicago.  
Wachburn Wire Co., Inc., Philadelphia,  
Pa.  
Youngstown (O.) Sheet & Tube Co.

**ROLLING MACHINERY—Cold Rolling**

Bliss, E. W. Co., 53rd St. & 2nd Ave.,  
Brooklyn, N. Y.  
Kane & Roach, Syracuse, N. Y.  
Yoder Co., The, Cleveland.

**ROLLING MACHINERY—Corrugating**

Strelne Tool & Mfg. Co., New Bremen, O.

**ROLLING MACHINERY—Sheet Leveler**

Aetna-Standard Eng. Co., Youngstown, O.  
Strelne Tool & Mfg. Co., New Bremen, O.

**ROLLING MACHINERY—Sheet Metal**

Strelne Tool & Mfg. Co., New Bremen, O.  
Yoder Co., The, Cleveland.

**ROLLING MACHINERY—Sheet Oiling**

Aetna-Standard Eng. Co., Youngstown, O.  
Strelne Tool & Mfg. Co., New Bremen, O.

**ROLLING MILL MACHINERY**

Aetna-Standard Eng. Co., Youngstown, O.  
Birdsboro (Pa.) Steel Fdry. & Mch. Co.  
Bliss, E. W. Co., 53rd St. & 2nd Ave.,  
Brooklyn, N. Y.

**Farrel-Birmingham Co., Inc., Ansonia,  
Conn.**

Hyde Park (Pa.) Fdry. & Mch. Co.  
National Roll & Fdry. Co., Avonmore, Pa.  
Newbold, H. S., & Son Co., Norristown, Pa.  
Quickwork Co., The (Not Incorporated—  
H. Collier Smith, Owner) St. Marys, O.  
Standard Machinery Co., Auburn, R. I.  
Treadwell Engineering Co., Easton, Pa.  
United Engrg. & Fdry. Co., Pith.  
Waterbury (Ct.) Farrel Fdry. & Mch. Co.

**ROLLS—Alloy Steel**

Duquesne Steel Fdry. Co., Pittsburgh, Pa.  
Pittsburgh (Pa.) Rolls Corp.  
United Engrg. & Fdry. Co., Pith.

**ROLLS—Bending and Straightening**

Bertach & Co., Cambridge City, Ind.  
Bethlehem (Pa.) Steel Co.  
Buffalo (N. Y.) Forge Co., 492 B'way,  
Cleveland (O.) Punch & Shear Wks. Co.  
Hendley & Whittemore Co., Beloit, Wis.  
Lake Erie Engrg. Corp., Buffalo, N. Y.  
Niagara Machine & Tool Works, Buffalo,  
N. Y.

Ryerson, Jos. T., & Son, Inc., Chicago.  
Southway Foundry & Machine Co., Phila.

**ROLLS—Brass, Bronze, Copper, Iron,  
Monel, Aluminum**

Paper & Textile Mchry. Co., The, San-  
dusky, Ohio.

**ROLLS—Galvanizing**

Erie (Pa.) Forge Co.

**ROLLS—Sand Chilled Iron and Steel**

Aetna-Standard Eng. Co., Youngstown, O.  
American Steel Foundries, Chicago.  
Birdsboro (Pa.) Steel Fdry. & Mch. Co.  
Farrel-Birmingham Co., Inc., Ansonia,  
Conn.  
Hyde Park (Pa.) Fdry. & Mch. Co.  
National Roll & Fdry. Co., Avonmore, Pa.  
Pittsburgh (Pa.) Rolls Corp.  
United Engrg. & Fdry. Co., Pittsburgh.

**ROLLS—Special Hardened**

Bethlehem (Pa.) Steel Co.

**ROOFING—Cement Tile**

American Cement Tile Mfg. Co., 803  
Oliver Bldg., Pith.

**ROOFING—Concrete**

Austin Co., The, Cleveland.

**ROOFING—Special Copper Bearing Steel**

Newport (Ky.) Rolling Mill Co.

**ROOFING AND SIDING—Corrugated  
and Plain**

American Sheet & Tin Plate Co., Pitts-  
burgh.  
Newport (Ky.) Rolling Mill Co.  
Ryerson, Jos. T., & Son, Inc., Chicago.  
Youngstown (O.) Sheet & Tube Co.

**ROOFING AND SIDING—(Genuine Open  
Hearth Iron)**

Newport (Ky.) Rolling Mill Co.

**ROOFING AND SIDING—Iron and Steel**

Newport (Ky.) Rolling Mill Co.

**RUST PREVENTIVES**

American Chemical Paint Co., Ambler, Pa.  
American Lanolin Co., Lawrence, Mass.

**RUST REMOVING**

American Chemical Paint Co., Ambler, Pa.

**SAFETY DEVICES AND SUPPLIES**

Weldit Acetylene Co., Detroit.

**SAND—Core**

Industrial Silica Corp., Youngstown, Ohio.

**SAND—Furnace Bottom**

Industrial Silica Corp., Youngstown, Ohio.

**SAND—Molding**

Rogers Brown & Crocker Bros., Inc., 31  
E. 40th St., N. Y. C.

**SAND—Sand Blast**

Cape May (N. J.) Sand Co.  
Industrial Silica Corp., Youngstown, Ohio.

**SAND—Steel Molding**

Cape May (N. J.) Sand Co.  
Industrial Silica Corp., Youngstown, Ohio.

**SAND BLAST EQUIPMENT AND MA-  
CHINES**

Arcade Mfg. Co., Freeport, Ill.  
Mott Sand Blast Mfg. Co., Inc., Chi.  
Pangborn Corp., Hagerstown, Md.  
Ely, W. W., Mfg. Co., Cleveland, O.

**SAND CUTTING AND SCREENING  
MACHINES**

Bartlett, C. O. & Snow Co., Cleveland.

**SAND HANDLING EQUIPMENT**

Bartlett, C. O. & Snow Co., Cleveland.  
Beardsley & Piper Co., Chicago, Ill.  
Hayward Co., 50 Church St., N. Y. C.  
National Engineering Co., Chicago.

**SAND MILLS**

Bartlett, C. O. & Snow Co., Cleveland.  
National Engineering Co., Chicago.

**SAWING MACHINES—Metal**

Atkins, E. C., & Co., Indianapolis, Ind.  
Cochrane-Bly Co., Rochester, N. Y.  
Earle Gear & Mch. Co., Phila.  
Eppen-Lucas Mach. Works, Phila.  
Peerless Machine Co., Racine, Wis.  
Racine Tool & Mch. Co., 1755 State St.,  
Racine, Wis.  
Tannet's Wks., The, Grand Rapids,  
Mich.

**SAWS—Band and Hack for Metal**

Armstrong-Blum Mfg. Co., Chicago.  
Atkins, E. C., & Co., Indianapolis, Ind.  
Diston, Henry & Sons, Inc., Phila.  
Simonds Saw & Steel Co., Fitchburg,  
Mass.  
Tannet's Wks., The, Grand Rapids,  
Mich.

**SAWS—Circular, Rip and Cutoff**

Atkins, E. C., & Co., Indianapolis, Ind.  
Cochrane-Bly Co., Rochester, N. Y.

**SAWS—Cold Metal**

Atkins, E. C., & Co., Indianapolis, Ind.  
Hunter Saw & Mch. Co., 5660 Butler  
St., Pith.

**SAWS—Fristies**

Atkins, E. C., & Co., Indianapolis, Ind.  
Diston, Henry & Sons, Inc., Philadelphia.  
Ryerson, Jos. T., & Son, Inc., Chicago.

**SAWS—Hack Saw Blades**

Atkins, E. C., & Co., Indianapolis, Ind.  
Peerless Mch. Co., Racine, Wis.

**SAWS—Hot Metal**

Atkins, E. C., & Co., Indianapolis, Ind.  
Diston, Henry & Sons, Inc., Philadelphia.  
Hunter Saw & Mch. Co., 5660 Butler  
St., Pith.

**SAWS—Inserted Teeth, Cold**

Diston, Henry, & Sons, Inc., Phila.  
Hunter Saw & Mch. Co., 5660 Butler St.,  
Pittsburgh.  
Simonds Saw & Steel Co., Fitchburg,  
Mass.

**SAWS—Milling**

Diston, Henry & Sons, Inc., Phila.

**SAWS—Screw Slitting**

Atkins, E. C., & Co., Indianapolis, Ind.

**SAWS—Sliding Frame**

United Engrg. & Fdry. Co., Pith.

**SCRAP—Iron and Steel**

Perry, Buxton, Doane Co., Boston.  
Potts, Henry, & Co., Phila.

**SCREENS—Perforated Metal**

Diamond Mfg. Co., Wyoming, Pa.  
Chicago Perforating Co., Chicago, Ill.  
Erdie Perforating Co., Rochester, N. Y.  
Harrington & King Perforating Co., Chi.  
Hendrick Mfg. Co., Carbondale, Pa.  
Mundt, Chas., & Sons, Jersey City, N. J.

**SCREENS—Woven Wire**

Manganese Steel Forge Co., Phila.

**SCREW MACHINE PRODUCTS**

Barnes, Wallace, Co., The, Bristol, Ct.  
Bell, David, Co., Inc., The, Buffalo, N. Y.  
Brown Bag Filling Mch. Co., Fitchburg,  
Mass.

Cleveland (O.) Cap Screw Co., The.  
Corbin Screw Corp., New Britain, Ct.

Eastern Mch. Screw Corp., New Haven, Ct.  
Ferry Cap & Set Screw Co., Cleveland.

Hartford (Ct.) Machine Screw Co.  
Luers Bros. Mchry. & Tool Co., De-  
troit, Mich.

National Acme Co., The, Cleveland.  
Olson Mfg. Co., Worcester, Mass.

Ottomiller, Wm. H., Co., Inc., York, Pa.  
Penn. Screw & Machine Works, Phila.

Progressive Mfg. Co., Torrington, Ct.  
Screw Mch. Products Corp., Prov., R. I.

Shimer, Samuel J., & Sons, Inc., Milton,  
Pa.

Western Screw Products Co., St. Louis,  
Mo.

**SCREW MACHINERY—Automatic**

Cone Automatic Mch. Co., Inc., Windsor,  
Vt.

National Acme Co., The, Cleveland.

**SCREW MACHINERY—Automatic Wood**

Cook, Asa S., Co., Hartford, Ct.

**SCREW MACHINERY—Hand**

Jones & Lamson Mch. Co., Springfield, Vt.

**SCREW MACHINERY—Multiple Spindle**

Cone Automatic Mch. Co., Inc., Windsor,  
Vt.

National Acme Co., The, Cleveland.

**SCREWS—CAP**

Cleveland (O.) Cap Screw Co., The.  
Corbin Screw Corp., New Britain, Ct.

Ferry Cap & Set Screw Co., Cleveland.  
National Acme Co., The, Cleveland.

Ottomiller, Wm. H., Co., Inc., York, Pa.  
Shimer, Samuel J., & Sons, Inc., Milton,  
Pa.

Western Screw Products Co., St. Louis, Mo.

**SCREWS—Cold Headed**

Cleveland (O.) Cap Screw Co., The.

**SCREWS—Machine**

Corbin Screw Corp., New Britain, Ct.  
Progressive Mfg. Co., Torrington, Ct.

**SCREWS—Safety Set**

Allen Mfg. Co., The, Hartford, Ct.  
Bristol Co., Waterbury, Ct.

Progressive Mfg. Co., Torrington, Ct.  
Standard Pressed Steel Co., Jenkintown,  
Pa.

Strong, Carlisle & Hammond Co., Cleve.

**SCREWS—Set**

Ferry Cap & Set Screw Co., Cleveland.  
National Acme Co., The, Cleveland.

Ottomiller, Wm. H., Co., Inc., York, Pa.  
Strong, Carlisle & Hammond Co., Cleve.

**SCREWS—Socket, Head, Cap**

Allen Mfg. Co., The, Hartford, Ct.  
Standard Pressed Steel Co., Jenkintown,  
Pa.

Strong, Carlisle & Hammond Co., The,  
Cleveland.

**SCREWS—Thumb Nailable**

Philadelphia (Pa.) Hardware & Nail-  
able Iron Wks., Inc.



**SCREWS—Wood**

Corbin Screw Corp., New Britain, Ct.

**SCRUBBING MACHINES—Sheet**

Wean Engineering Co., Inc., The, Warren, Ohio.

**SECOND-HAND MACHINERY—See Clearing House Section**

Andren-Myerson Co., Boston, Mass.

Armet, James P., Pgh.

Botwink Bros., Inc., New Haven, Conn.

Briggs &amp; Turvas, Inc., Zanesville, Ohio

Case, Crane &amp; Kilbourne Jacobs Co., The, Columbus, Ohio.

Cooper Michry, Co., Youngstown, Ohio.

Cunningham, C., Boiler Wks., 427-447 74th St., Chicago.

Donahue Steel Products Co., 1609 West 74th St., Chicago.

Eastern Michry, Co., Cincinnati.

Erie (Pa.) Steel Construction Co.

Easley, E. L. Michry Co., Chicago.

Froment &amp; Co., 150 Bank St., N. Y. C.

Highway Truck Parts Co., Indianapolis, Ind.

Hill, Clarke &amp; Co. of Chicago, 647 W. Washington Blvd., Chicago, Ill.

Ideal Machinery Co., Plainville, Ct.

Johnson, Wm. C. &amp; Sons, Michry Co., St. Louis, Mo.

Leahy, John W., Danbury, Conn.

Llewellyn, Thomas J. &amp; Co., Pgh.

Lodge &amp; Shipley Mich. Tool Co., Cincl.

Lumms &amp; Co., Philadelphia, Pa.

MacCabe, T. B., Phila.

Marr-Galbreath Michry, Co., Pgh.

Miles Michry Co., Saginaw, W. S., Mich.

Morcy &amp; Co., Inc., 410 Broome St., N. Y. C.

Nelson, A. H. Mach. Co., Bridgeport, Ct.

O'Brien Michry, Co., Phila.

Osborne &amp; Sexton Michry, Co., Columbus, O.

Production Michry Sales Co., Detroit.

Prussian M. Michry Co., Detroit.

Reliance Michry Sales Co., Pgh.

Ross Power Equip. Co., Indianapolis.

Russell Mich. Co., Pgh.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Scully-Jones &amp; Co., Chicago.

Simmons Mach. Tool Corp., Albany, N. Y.

Walsh, J. T., Buffalo, N. Y.

White, A. D. Michry, Co., Chicago.

Zelnicker in St. Louis, Mo.

**SEPARATORS—Magnetic**

Dings Magnetic Separator Co., Milwaukee.

Magnetic Mfg. Co., Milwaukee.

Ohio Electric Mfg. Co., Cleveland.

**SHAFTING—Cold Drawn**

Cumberland (Md.) Steel Co.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Wyckoff Drawn Steel Co., Pgh.

**SHAFTING—Smooth Forged or Rough Turned**

Erie (Pa.) Forge Co.

**SHAFTING—Steel**

Bethlehem (Pa.) Steel Co.

Bliss &amp; Laughlin, Inc., Harrey, Ill.

Cumbrian (Md.) Steel Co.

**SHAFTING—Turned and Polished**

Cumberland (Md.) Steel Co.

Wyckoff Drawn Steel Co., Pittsburgh

**SHAPES—Cold Drawn**

Wyckoff Drawn Steel Co., Pgh.

**SHAPES—Cold Rolled**

Britesun, Inc., Chicago.

**SHAPES—Steel**

Phoenix Iron Co., Phila.

Ryerson, Jos. T. &amp; Sons, Inc., Chicago.

**SHAPES—Wire**

Titchener, E. H., &amp; Co., Binghamton, N. Y.

**SHAPING MACHINES—Horizontal**

American Tool Works Co., Cincl.

Cincinnati (O.) Shaper Co., The.

Gould &amp; Eberhardt, Newark, N. J.

Monarch Michry Co., Philadelphia, Pa.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Smith &amp; Mills Co., Cincl.

**SHEARING MACHINES—Bar**

Aetna-Standard Eng. Co., Youngstown, O.

Beatty Mch. &amp; Mfg. Co., Hammond, Ind.

Buffalo (N. Y.) Forge Co., 492 B'way

Cleveland (O.) Punch &amp; Shear Wks. Co.

Newbold, R. S., &amp; Son Co., Norristown, Pa.

Pela, Henry, &amp; Co., 90 West St., N. Y. C.

Smith, David H. &amp; Sons, Inc., Foot of 51st St., Brooklyn, N. Y.

**SHEARING MACHINES—Beam and Channel**

Buffalo (N. Y.) Forge Co., 492 B'way

Cleveland (O.) Punch &amp; Shear Wks. Co.

Pela, Henry, &amp; Co., 90 West St., N. Y. C.

Smith, David H. &amp; Sons, Inc., Foot of 51st St., Brooklyn, N. Y.

**SHEARING MACHINES—Billet**

Buffalo (N. Y.) Forge Co., 492 B'way

Morgan Engineering Co., Alliance, Pa.

Pela, Henry &amp; Co., 90 West St., N. Y. C.

Smith, David H. &amp; Sons, Inc., Foot of 51st St., Brooklyn, N. Y.

**SHEARING MACHINES—Continuous Automatic**

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Continuous Sheet & Pack**

Streine Tool &amp; Mfg. Co., New Bremen, O.

**SHEARING MACHINES—Doubling and Squaring**

United Engrg. &amp; Fdry. Co., Pgh.

**SHEARING MACHINES—Metal Sitt-**

Buffalo (N. Y.) Forge Co., 492 B'way

Hendler &amp; Whittemore Co., Beloit, Wis.

Pela, Henry, &amp; Co., 90 West St., N. Y. C.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Smith, David H. &amp; Sons, Inc., Foot of 51st St., Brooklyn, N. Y.

**SHEARING MACHINES—Metal Sitt-**

Adrian Mach. Works, Inc., 82 Richards St., Bklyn, N. Y.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Plate**

Bertsch &amp; Co., Cambridge City, Ind.

Cleveland (O.) Punch &amp; Shear Wks. Co.

Dreis &amp; Krump Mfg. Co., Chicago.

Morgan Engineering Co., Alliance, O.

Newbold, R. S., &amp; Son Co., Norristown, Pa.

Niagara Mach. &amp; Tool Wks., Buffalo, N. Y.

Pela, Henry, &amp; Co., 90 West St., N. Y. C.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Smith, David H. &amp; Sons, Inc., Foot of 51st St., Brooklyn, N. Y.

Thomas Spacing Mach. Co., Pgh., Pa.

United Engrg. &amp; Fdry. Co., Pgh.

Wood, R. D., &amp; Co., Philadelphia

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Rotary for Ir-**

Newbold, R. S., &amp; Son Co., Norristown, Pa.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Rotary Sitt-**

Streine Tool &amp; Mfg. Co., New Bremen, O.

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Sheet and Plate**

Dreis &amp; Krump Mfg. Co., Chicago.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Streine Tool &amp; Mfg. Co., New Bremen, O.

Yoder Co., The, Cleveland.

**SHEARING MACHINES—Squaring**

Dreis &amp; Krump Mfg. Co., Chicago.

Streine Tool &amp; Mfg. Co., New Bremen, O.

Toledo (O.) Mch. &amp; Tool Co.

**SHEET BARS**

Andrews Steel Co., Newport, Ky.

**SHEET METAL MACHINERY**

Adrian Mach. Wks., Inc., 82 Richards St., Bklyn, N. Y.

Bliss, E. W. Co., 53rd St. &amp; 2nd Ave., Brooklyn, N. Y.

Cincinnati (O.) Shaper Co., The.

Consolidated Mch. Tool Corp. of America, Rochester, N. Y.

Dreis &amp; Krump Mfg. Co., Chicago.

Ferracute Machine Co., Bridgeton, N. J.

Kane &amp; Roach, Syracuse, N. Y.

Loy &amp; Navrath Div. Farrel-Birmingham Co., Inc., Derby, Conn.

Manning, Maxwell &amp; Moore, Inc., 100 E. 42nd Street, N. Y. C.

Newbold, R. S., &amp; Son Co., Norristown, Pa.

New Albany (Ind.) Mch. Mfg. Co.

Niagara Mach. &amp; Tool Wks., Buffalo, N. Y.

Ohl, George A., &amp; Co., Inc., Newark, N. J.

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.

Standard Machinery Co., Auburn, R. I.

Toledo (O.) Machine &amp; Tool Co.

V &amp; O Press Co., Hudson, N. Y.

Yoder Co., The, Cleveland.

**SHEET METAL WORK**

Champion Sheet Metal Co., Inc., Cortland, N. Y.

Reiker Blower Co., Inc., Buffalo, N. Y.

**SHEETS—Aluminum**

Aluminum Co. of America, Pittsburgh.

Erdie Perforating Co., Rochester, N. Y.

**SHEETS—Auto Body**

American Sheet &amp; Tin Plate Co., Pitts-

burgh.

Eastern Rolling Mill Co., Balto., Md.

Newport (Ky.) Rolling Mill Co.

Newton Steel Co., Youngstown, Ohio.

Youngstown (O.) Sheet &amp; Tube Co.

**SHEETS—Black**

American Sheet &amp; Tin Plate Co., Pitts-

burgh.

Bethlehem (Pa.) Steel Company.

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

Newport (Ky.) Rolling Mill Co.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Sharon (Pa.) Steel Hoop Co.

**SHEETS—Blue Annealed**

Alan Wood Steel Co., Cenhoboken, Pa.

Bethlehem (Pa.) Steel Co.

Central Iron &amp; Steel Co., Harrisburg, Pa.

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

Newport (Ky.) Rolling Mill Co.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Sharon (Pa.) Steel Hoop Co.

**SHEETS—Box Annealed**

Newport (Ky.) Rolling Mill Co.

**SHEETS—Brass, Bronze, Copper, Nickel Silver or Phosphor Bronze**

Phosphor Bronze Smelting Co., Phila.

Seymour (Ct.) Mfg. Co.

**SHEETS—Copper Steel**

Newport (Ky.) Rolling Mill Co.

**SHEETS—Electrical**

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

Newport (Ky.) Rolling Mill Co.

**SHEETS—Enameling Steel**

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

**SHEETS—Enameling Steel (Genuine Open Hearth Iron)**

Newport (Ky.) Rolling Mill Co.

**SHEETS—For Drawing and Stamping**

Eastern Rolling Mill Co., Balto., Md.

Firth-Sterling Steel Co., McKeesport, Pa.

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

Newport (Ky.) Rolling Mill Co.

Newton Steel Co., Youngstown, Ohio.

Sharon (Pa.) Steel Hoop Co.

Wheeling (W. Va.) Steel Corp.

**SHEETS—Full Finished**

Eastern Rolling Mill Co., Balto., Md.

Newport (Ky.) Rolling Mill Co.

Newton Steel Co., Youngstown, Ohio.

Seneca Iron &amp; Steel Co., Buffalo, N. Y.

Youngstown (O.) Sheet &amp; Tube Co.

**SHEETS—Galvanized, Flat and Corru-**

gated

American Sheet &amp; Tin Plate Co., Pitts-

burgh.

Bethlehem (Pa.) Steel Co.

National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

Newport (Ky.) Rolling Mill Co.

Ryerson, Jos. T. &amp; Son, Inc., Chicago.

Youngstown (Ohio) Sheet &amp; Tube Co.

**SHEETS—Locomotive Jacket**

Newport (Ky.) Rolling Mill Co.

**SHEETS—Metal Furniture**

Eastern Rolling Mill Co., Balto., Md.

Newport (Ky.) Rolling Mill Co.

Seneca Iron &amp; Steel Co., Buffalo, N. Y.

**SHEETS—Pileled**

Newport (Ky.) Rolling Mill Co.

**SHELLS—Brass and Copper**

Bridgeport (Conn.) Brass Co.

SHELVING—Steel

Cleveland (O.) Wire Spring Co.

SHINGLES—Metal

Newport (Ky.) Rolling Mill Co.

SHOVELS—Steam

American Locomotive Co., 30 Church St., N. Y. C.

SKIDS—Lift Truck

Lewis-Shepard Co., 122 Walnut St., Watertown Station, Boston.

SLABS

Andrews Steel Co., Newport, Ky.

Central Iron &amp; Steel Co., Harrisburg, Pa.

SLINGS—Wire Rope

Roebbing's John A. Sons Co., Trenton, N.J.

**SLOTING MACHINES**

Consolidated Mch. Tool Corp. of America, Rochester, N. Y.

Nazel Engrg. &amp; Mch. Wks., Phila.

**SPACING TABLES—Punching & Shearing**

Thomas Spacing Mach. Co., Pgh., Pa.

**SPECIAL MACHINERY**

Am. Max, Mach. Co., The, Bridgeport, Conn.

Bethlehem (Pa.) Steel Co.

Budd-Ranney Eng. Co., The, Columbus, O.

Elliard Co., The, Bridgeport, Ct.

Hartford, Ct.

Hartford, Ct.

Hartford, Ct.

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Konigslow, E. Stgs. & Tool Co., The, Cleveland, Ohio.  
Konigslow, Otto, Mfg. Co., Cleve.  
Lansing (Mich.) Stgs. Co.  
Lee Spring Co., Inc., 30 Main St., B'klyn, N. Y.  
Master Products Co., The, 6420 Park Ave., S. E., Cleveland, O.  
Metal Specialty Co., 1533 W. Sixth St., Cincinnati.

Miller & Van Winkle, Inc., 18 Bridge St., B'klyn, N. Y.  
Mullins Mfg. Corp., Salem, Ohio.  
New England Pressed Steel Co., 1 Washington Ave., Natick, Mass.  
Parish Pressed Steel Co., Reading, Pa.  
Patent Specialty Supply Co., Cambridge, N. Y.  
Penn Jersey Metal Products Corp., Camden, N. J.  
Pennsylvania Car Co., Kansas City, Kans.  
Plume & Atwood Mfg. Co., Waterbury, Conn.

St. Paul (Minn.) Corrugating Co.  
Sessions, J. H., & Son, Bristol, Ct.  
Seymour (Ct.) Products Co., The.  
Smith, Thomas, Co., 236 Grove St., Worcester, Mass.  
Stanley Works, The, New Britain, Ct.  
Stolper Steel Prods. Corp., Milwaukee, Wis.

Torrington (Ct.) Co.  
Veeber-Root, Inc., Hartford, Ct.  
Welker-Hoops Mfg. Co., Middletown, Conn.  
Worcester (Mass.) Pressed Steel Co.  
Worcester (Mass.) Stamped Metal Co.  
York (Pa.) Corrugating Co.

**STAMPS—Steel Alphabets and Figures**  
Schwerdtle Stamp Co., Bridgeport, Ct.

**STAPLES—Wire**  
American Steel & Wire Co., Chicago.  
Titchener, E. H., & Co., Binghamton, N. Y.

#### STEEL—Alloy

Alan Wood Steel Co., Conshohocken, Pa.  
Allen, Edgar, Steel Co., Inc., 745 Washington St., N. Y. C.  
Andrews Steel Co., The, Newport, Ky.  
Associated Alloy Steel Co., Inc., Cleveland, O.  
Bethlehem (Pa.) Steel Co.  
Driver-Harris Co., Harrison, N. J.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Heller Bros. Co., Newark, N. J.  
Heppenstall Co., Pittsburgh.  
Latrobe (Pa.) Electric Steel Co.  
Ryerson, Jas. T., & Son, Inc., Chicago.  
Timken Steel & Tube Co., The, Canton, O.  
Vanadium-Alloys Steel Co., Latrobe, Pa.  
Wheelock, Lovejoy & Co., Inc., Cambridge, Mass.

**STEEL—Bright Finished**  
Wyckoff Drawn Steel Co., Pgh.

#### STEEL—Carbon

Andrews Steel Co., The, Newport, Ky.  
Carnegie Steel Co., Pittsburgh.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Carbon Vanadium

Andrews Steel Co., The, Newport, Ky.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Chrome

Andrews Steel Co., The, Newport, Ky.  
Associated Alloy Steel Co., Inc., Cleveland, O.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Chrome Manganese

Latrobe (Pa.) Electric Steel Co.  
Wheelock, Lovejoy & Co., Inc., Cambridge, Mass.

#### STEEL—Chrome Nickel

Andrews Steel Co., Newport, Ky.  
Associated Alloy Steel Co., Inc., Cleveland, O.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Krupp Nitrosta Co., Inc., New York Central Bldg., N. Y. C.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Chrome Vanadium

Andrews Steel Co., Newport, Ky.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Cold Drawn

American Steel & Wire Co., Chicago.  
Bethlehem (Pa.) Steel Co.  
Bliss & Laughlin, Inc., Harvey, Ill.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Globe Wire Company, Div. of the Firth-Sterling Steel Co., Sharpsburg, Pa.  
Latrobe (Pa.) Electric Steel Co.  
Wetherill Bros. Co., Cambridge, 39, Mass.  
Wyckoff Drawn Steel Co., Pgh.

#### STEEL—Cold Rolled Strips

American Steel & Wire Co., Chicago.  
American Tube & Stpg. Plant (The Stanley Wks.), Bridgeport, Conn.  
Athenia Steel Co., 135 William St., N. Y. C.  
Cold Metal Process Co., Youngstown, Ohio.  
Griffin Mfg. Co., Erie, Pa.

Latrobe (Pa.) Electric Steel Co.  
Stanley Works, The, New Britain, Ct.  
Superior Steel Corp., Union Trust Bldg., Pgh.  
Washburn Wire Co., Inc., Phillipsdale, R. I.  
West Leechburg Steel Co., Pgh.  
Wetherill Bros. Co., Cambridge, 39, Mass.  
Worcester (Mass.) Pressed Steel Co.

#### STEEL—Crucible

Columbia Tool Steel Co., Chicago Hgts., Ill.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Vanadium-Alloys Steel Co., Latrobe, Pa.

#### STEEL—Cutlery

Firth-Sterling Steel Co., McKeesport, Pa.  
Latrobe (Pa.) Electric Steel Co.  
Wetherill Bros. Co., Cambridge, 39, Mass.

#### STEEL—Die

Andrews Steel Co., The, Newport, Ky.  
Bethlehem (Pa.) Steel Company.  
Diston, Henry & Sons, Inc., Philadelphia.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Heppenstall Co., Pittsburgh.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Drill

Heller Bros. Co., Newark, N. J.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Electric

Bethlehem (Pa.) Steel Co.  
Diston, Henry & Sons, Inc., Phila.  
Driver-Harris Co., Harrison, N. J.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Latrobe (Pa.) Electric Steel Co.  
Timken Steel & Tube Co., The, Canton, O.

#### STEEL—High Speed

Allen, Edgar, Steel Co., Inc., 745 Washington St., N. Y. C.  
Bethlehem (Pa.) Steel Co.  
Columbia Tool Steel Co., Chicago Hgts., Ill.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Heller Bros. Co., Newark, N. J.  
Latrobe (Pa.) Elec. Steel Co.  
Ryerson, Jas. T., & Son, Inc., Chicago.  
Simonds Saw & Steel Co., Lockport, N. Y.  
Vanadium-Alloys Steel Co., Latrobe, Pa.  
Wheelock, Lovejoy & Co., Inc., Cambridge, Mass.

#### STEEL—Hot Rolled Strips

American Tube & Stpg. Plant (The Stanley Wks.), Bridgeport, Conn.  
Barnes, Wallace, Co., The, Bristol, Ct.  
Griffin Mfg. Co., Erie, Pa.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Laclede Steel Co., St. Louis, Mo.  
Latrobe (Pa.) Elec. Steel Co.  
Sharon (Pa.) Steel Hoop Co.  
Stanley Works, The, New Britain, Ct.  
Superior Steel Corp., Union Trust Bldg., Pgh.  
West Leechburg Steel Co., Pgh.

#### STEEL—Magnet

Latrobe (Pa.) Elec. Steel Co.  
Simonds Saw & Steel Co., Lockport, N. Y.

#### STEEL—Manganese

Frog, Switch & Mfg. Co., The, Carlisle, Pa.

#### STEEL—Manganese Rolled or Forged

Manganese Steel Forge Co., Phila.

#### STEEL—Nickel

Andrews Steel Co., Newport, Ky.

#### STEEL—Open Hearth

Andrews Steel Co., The, Newport, Ky.  
Driver-Harris Co., Harrison, N. J.  
Sharon (Pa.) Steel Hoop Co.  
Timken Steel & Tube Co., The, Canton, O.

#### STEEL—Rustless

Associated Alloy Steel Co., Inc., Cleveland, O.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Screw

American Steel & Wire Co., Chicago.  
Timken Steel & Tube Co., The, Canton, O.  
Wyckoff Drawn Steel Co., Pgh.

#### STEEL—Special Analysis

Andrews Steel Co., The, Newport, Ky.  
Latrobe (Pa.) Electric Steel Co.  
Timken Steel & Tube Co., The, Canton, O.  
West Leechburg Steel Co., Pgh.

#### STEEL—Spring

Athenia Steel Co., 135 William St., N. Y. C.  
Barnes, Wallace, Co., The, Bristol, Ct.  
Bethlehem (Pa.) Steel Co.  
Harrisburg (Pa.) Pipe & Pipe Bending Co.  
Ryerson, Jas. T., & Son, Inc., Chicago.  
Timken Steel & Tube Co., The, Canton, O.

#### STEEL—Stainless

Associated Alloy Steel Co., Inc., Cleveland, O.  
Bethlehem (Pa.) Steel Co.  
Diston, Henry & Sons, Inc., Philadelphia.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Krupp Nitrosta Co., Inc., New York Central Bldg., N. Y. C.  
Latrobe (Pa.) Electric Steel Co.  
Simonds Saw & Steel Co., Lockport, N. Y.

#### STEEL—Tool

Allen, Edgar, Steel Co., Inc., 745 Washington St., N. Y. C.  
Bethlehem (Pa.) Steel Co.

Columbia Tool Steel Co., Chicago Hgts., Ill.  
Diston, Henry & Sons, Inc., Phila.  
Firth-Sterling Steel Co., McKeesport, Pa.  
Heller Bros. Co., Newark, N. J.  
Latrobe (Pa.) Electric Steel Co.  
Milne, A., & Co., 745 Washington St., N. Y. C.  
Ryerson, Jas. T., & Son, Inc., Chicago.  
Simonds Saw & Steel Co., Lockport, N. Y.  
Vanadium-Alloys Steel Co., Latrobe, Pa.  
Wetherill Bros. Co., Cambridge, 39, Mass.

#### STEEL—Tool, Special Shapes

Heller Bros. Co., Newark, N. J.  
Latrobe (Pa.) Electric Steel Co.

#### STEEL—Vanadium

Andrews Steel Co., Newport, Ky.  
Latrobe (Pa.) Elec. Steel Co.

#### STEEL PLANTS AND ROLLING MILLS

McKee, Arthur G., & Co., Cleve.  
Perlin & Marshall, 11 West 42nd St., N. Y. C.

#### STEEL PLATE CONSTRUCTION

Chicago (Ill.) Bridge & Iron Wks.  
Cole, R. D., Mfg. Co., Newnan, Ga.  
Lancaster (Pa.) Iron Works, Inc.  
Meehan Boiler & Construction Co., Lovellville, Ohio.  
Petroleum Iron Works Co., Sharon, Pa.  
Traylor Engrg. & Mfg. Co., Allentown, Pa.

#### STEEL ROLLS

Heppenstall Co., Pittsburgh.

#### STEPS—Ladder & Stair, Safety

Blaw-Knox Co., Pittsburgh.  
Central Iron & Steel Co., Harrisburg, Pa.

#### STEPS—Safety

Hendrick Mfg. Co., Carbondale, Pa.

#### STOCKS AND DIES

Jones & Lamson Mach. Co., Springfield, Vt.  
Saunders, D., Sons, Yonkers, N. Y.

#### STOKERS

Babcock & Wilcox Co., The, 85 Liberty St., N. Y. C.

#### STOOLS—Steel

Angle Steel Stool Co., Plainwell, Mich.

#### STOPPERS—Open-Hearth, Bessemer or Electric Furnace

McCullough-Dalzell Crucible Co., Pgh.  
Hoss-Tacony Crucible Co., Phila.

#### STOVES—Hot Blast

Brassett, H. A., & Co., Chicago.

#### STRAIGHTENING MACHINES

Aetna-Standard Eng. Co., Youngstown, O.  
Atlas, E. W. Co., 53rd St. & 2nd Ave., Brooklyn, N. Y.  
Kane & Roach, Syracuse, N. Y.  
Newbold, R. S., & Son Co., Norristown, Pa.  
Pels, Henry, & Co., 90 West St., N. Y. C.  
Thomas Spacing Mch. Co., Pgh., Pa.  
Whitney Metal Tool Co., Rockford, Ill.

#### STRAIGHTENING MACHINES—Wire

Lewis Mch. Co., The, Cleveland, Ohio.  
Shuster, F. B., Co., New Haven, Ct.

#### STRUCTURAL IRON AND STEEL WORK

American Bridge Co., 71 B'way, N. Y. C.  
American Institute of Steel Construction, Inc., 200 Madison Ave., N. Y. C.  
Austin Co., The, Cleveland.  
Belmont Iron Wks., Phila.  
Bethlehem (Pa.) Steel Co.  
Morgan Engrg. Co., Alliance, O.  
Phoenix Iron Co., Phila.  
Shoemaker Bridge Co., Pottstown, Pa.  
Virginia Bridge & Iron Co., Hanover, Va.

#### STRUCTURAL STEEL — See Angles, Beams, Channels and Tees

#### SULPHATE OF IRON

American Steel & Wire Co., Chicago.

#### SULPHURIC ACID

Grasselli Chemical Co., Inc., The, Cleveland.

#### SUPERHEATERS

Babcock & Wilcox Co., The, 85 Liberty St., N. Y. C.

#### SWAGING MACHINES

Quickwork Co., The (Not Incorporated—H. Collier Smith, Owner) St. Marys, O.  
Stanard Machinery Co., Auburn, N. Y.  
Torrington (Ct.) Co.

#### SWITCHES—Electric

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

#### TABLES—Welding

Oswald Acetylene Co., 30 E. 42nd St., New York City.

#### TACKS

American Steel & Wire Co., Chicago.

#### TANKS—Compressed Air, Gas, Oil and Water

Air-Tight Steel Tank Co., Pgh.  
Caldwell, W. E., Co., 1940 Brook St., Louisville, Ky.  
Kellogg, M. W., Co., The, 225 B'dway, N. Y. C.  
Petroleum Iron Works Co., Sharon, Pa.  
Prest-O-Lite Co., Inc., The, 30 E. 42nd St., New York City.

Scalfe, Wm. B., & Sons Co., Pgh.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

#### TANKS—Elevated Steel

Chicago (Ill.) Bridge & Iron Wks.  
Cole, R. D., Mfg. Co., Newnan, Ga.

#### TANKS—Elevated Wood

Caldwell, W. E., Co., 1940 Brook St., Louisville, Ky.  
Hauser-Stander Tank Co., Cincinnati.

#### TANKS—Gasoline & Oil

Chicago (Ill.) Bridge & Iron Wks.

#### TANKS—Iron and Steel

Caldwell, W. E., Co., 1940 Brook St., Louisville, Ky.  
Chicago (Ill.) Bridge & Iron Wks.  
Janney, Joseph A., Jr., Phila.  
Kellogg, M. W., Co., The, 225 B'dway, N. Y. C.  
Lancaster (Pa.) Iron Works, Inc.  
Scalfe, Wm. B., & Sons Co., Pgh.

#### TANKS—Lead Lined

Gross Lead Burning & Coating Corp., Cleveland.  
Hauser-Stander Tank Co., Cincinnati.

#### TANKS—Pickling

Hauser-Stander Tank Co., Cincinnati.

#### TANKS—Rubber Lined

Hauser-Stander Tank Co., Cincinnati.

#### TANKS—Water

Hauser-Stander Tank Co., Cincinnati.

#### TANKS—Welded

Air-Tight Steel Tank Co., Pgh.  
Scalfe, Wm. B., & Sons Co., Pgh.

#### TANKS—Wood

Caldwell, W. E., Co., 1940 Brook St., Louisville, Ky.  
Hauser-Stander Tank Co., Cincinnati.

#### TAPPING MACHINES

Baker Bros., Inc., Toledo.  
Barnes Drill Co., Inc., Rockford, Ill.  
Whitney Metal Tool Co., Rockford, Ill.

#### TAPPING MACHINES—Nuts

National Mchry. Co., Tiffin, Ohio.

#### TAPS—Collapsing

Geometric Tool Co., New Haven, Conn.  
Landis Mch. Co., Inc., Waynesboro, Pa.  
Murchey Mach. & Tool Co., 951 Porter St., Detroit.  
National Acme Co., The, Cleveland.

#### TAPS AND DIES

Brubaker, W. L., & Bros., Co., 50 Church St., N. Y. C.  
Landis Mch. Co., Inc., Waynesboro, Pa.  
Murchey Mach. & Tool Co., 951 Porter St., Detroit.  
National Acme Co., The, Cleveland.  
Pipe Mchry. Co., Cleveland.

#### TEES—See Angles, Beams, Channels and Tees

#### TELEPHONES—Interior

Screw Machine Products Corp., Prov., R. I.

#### TERNE PLATES

American Sheet & Tin Plate Co., Pittsburgh.  
National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.

#### TESTING MACHINES—Materials

Southark Fdry. & Mch. Co., Phila.

#### THREAD CUTTING TOOLS—See Dies, Taps, Screw Plates, etc.

#### THREAD ROLLING MACHINES

Nilson, A. H., Mach. Co., Bridgeport, Ct.  
Waterbury (Ct.) Farrel Fdry. & Mch. Co.

#### THREADING MACHINES

Geometric Tool Co., New Haven, Conn.  
Landis Mch. Co., Inc., Waynesboro, Pa.  
National Mchry. Co., Tiffin, Ohio.

#### THREADING MACHINES—Automatic

Landis Mch. Co., Inc., Waynesboro, Pa.

#### TIE PLATES

Joliet (Ill.) Wrought Washer Co.

#### TIES—Bale

American Steel & Wire Co., Chicago.

#### TIES—Crosstied

Century Wood Preserving Co., Pgh.

#### TIES—Metal

Bethlehem (Pa.) Steel Co.

#### TILE—Cement Roofing

American Cement Tile Mfg. Co., #03 Oliver Bldg., Pgh.

#### TIN PLATE

American Sheet & Tin Plate Co., Pittsburgh.  
National Ass'n. of Flat Rolled Steel Mfrs., Cleveland.  
Youngstown (O.) Sheet & Tube Co.



**TIN PLATE MACHINERY**

Aetna-Standard Eng. Co., Youngstown, O.  
Wean Engineering Co., Inc., The, Warren, Ohio.

**TINNERS' TOOLS AND MACHINES**

Niagara Mch. & Tool Wks., Buffalo, N. Y.  
Quickwork Co., The (Not incorporated)—  
H. Collier Smith, Owner, St. Marys, O.

**TINNING EQUIPMENT—Sheets**

Wean Engineering Co., Inc., The, Warren, Ohio.

**TONGS—Chain Pipe**

Williams, J. H., & Co., Buffalo, N. Y.

**TOOL HOLDERS**

Armstrong Bros. Tool Co., Chicago.  
Williams, J. H., & Co., Buffalo, N. Y.

**TOOLS, JIGS, FIXTURES, ETC.**

Hamilton (Ohio) Tool Co., The

**TOOLS—Lathe**

Armstrong Bros. Tool Co., Chicago.

**TOOLS—Steam and Gas Fitters**

Saunders, D., Sons, Youkers, N. Y.

**TOOLS—Tungsten Carbide**

Firth-Sterling Steel Co., McKeesport, Pa.

**TORCHES—Blow**

Anthony Co., L. I. C., N. Y.

Hauck Mfg. Co., 128 19th St., Bklyn, N.Y.

**TORCHES—Blow, Acetylene**

Prest-O-Lite Co., Inc., The, 30 E. 42nd St., New York City.

**TORCHES—Brazing, Cutting & Welding**

Oxweld Acetylene Co., 30 E. 42nd St., New York City.

**TOWERS—Steel**

Blaw-Knox Co., Pittsburgh.

Caldwell, W. K., Co., 1940 Brook St., Louisville, Ky.

**TOWERS—Transmission**

Blaw-Knox Co., Pittsburgh.

**TOWERS—Water—See Tanks—Elevated**

Steel and Elevated Wood

**TRACK—Industrial**

Bethlehem (Pa.) Steel Co.

**TRACK—Monorail**

American Monorail Co., The, Cleveland.

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**TRACTORS AND TRAILERS—See Trucks, Tractors and Trailers—Industrial**

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**TRAMWAYS—Overhead Systems**

Armington Engineering Co., Euclid, O.

Cleveland Electric Tramway, Wickliffe, O.

Reading (Pa.) Chain & Block Corp.

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**TRAMWAYS—Wire Rope**

American Steel & Wire Co., Chicago.

Broderick & Bascom Rope Co., St. Louis.

Leschen, A., & Sons Rope Co., St. Louis.

**TRAPS—Steam and Radiator**

Strong, Carlisle & Hammond Co., Cleve.

**TROLLEYS**

Conco Crane & Eng. Wks. Div. of H. D. Conkey & Co., 36 So. Jefferson St., Mendota, Ill.

Hazara Engineering Works, Chicago.

Robbins & Myers, Inc., Springfield, Ohio.

Shepard Niles Crane & Hoist Corp., Montour Falls, N. Y.

**TROLLEYS—Monorail**

American Monorail Co., The, Cleveland.

**TRUCKS—Elevating (Power)**

Automatic Transportation Co., Inc., 101 West 87th St., Chicago, Ill.

Wright-Hibbard Industrial Elec. Truck Co., Inc., Phelps, N. Y.

**TRUCKS—Lift (Hand and Foot)**

Lewis-Shepard Co., 122 Walnut St., Watertown Station, Boston.

**TRUCKS—Steel Shop**

American Pulley Co., Philadelphia

**TRUCKS—Two Wheel Hand**

American Pulley Co., Philadelphia

**TRUCKS, TRACTORS AND TRAILERS—Industrial**

Atlas Car & Mfg. Co., Cleve.

Automatic Transportation Co., Inc., 101 West 87th St., Chicago, Ill.

Chase Ferry & Mfg. Co., Columbus, O.

Wright-Hibbard Industrial Elec. Truck Co., Inc., Phelps, N. Y.

**TUBE EXPANDERS**

Dudgeon, Richard, Inc., 24-26 Columbia St., New York City.

**TUBE FORMING MACHINES**

Yoder Co., The, Cleveland.

**TUBE MILL MACHINERY**

Aetna-Standard Eng. Co., Youngstown, O.  
Treadwell Engineering Co., Easton, Pa.  
United Engrg. & Fdry. Co., Pa.

**TUBES—Boiler**

Babcock & Wilcox Tube Co., 85 Liberty St., N. Y. C.  
Keating, E. F., Co., 452 Water St., N. Y. C.

**TUBES—Boiler, Charcoal Iron**

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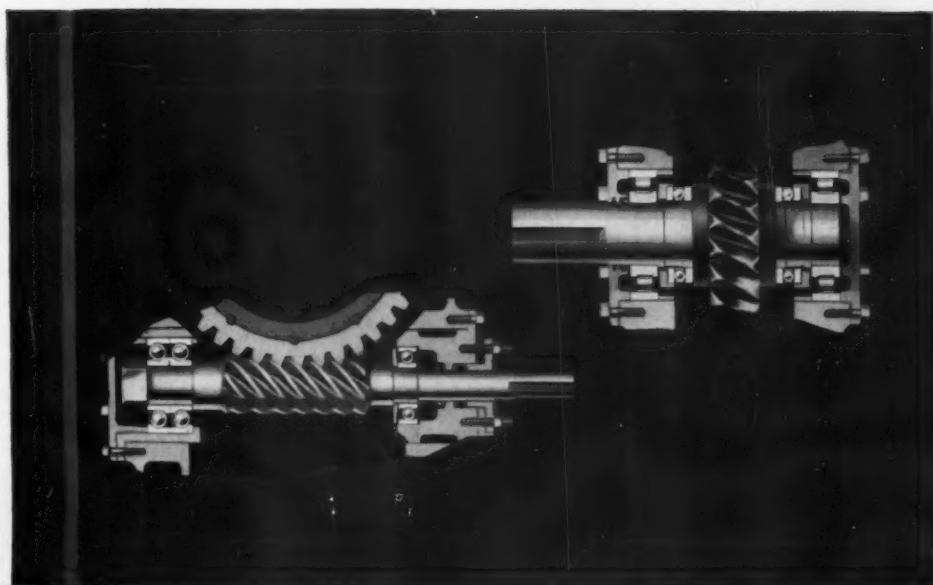
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